

**BEFORE
THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

DOCKET NO. 2018-319-E

In the Matter of:)	
)	DIRECT TESTIMONY OF
Application of Duke Energy Carolinas,)	KIM H. SMITH
LLC for Adjustments in Electric Rate)	FOR DUKE ENERGY
Schedules and Tariffs)	CAROLINAS, LLC

I. INTRODUCTION AND PURPOSE

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**
2 **CURRENT POSITION.**

3 A. My name is Kim H. Smith and my business address is 550 South Tryon
4 Street, Charlotte, North Carolina. I am a Director of Rates and
5 Regulatory, employed by Duke Energy Carolinas, LLC, testifying on
6 behalf of Duke Energy Carolinas (“DE Carolinas” or the “Company”).

7 **Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS ROLE?**

8 A. I am responsible for providing regulatory support for retail rates
9 initiatives, including retail rates cases or other significant rates initiatives
10 for DE Carolinas and Duke Energy Progress, LLC (“DE Progress”).

11 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL**
12 **BACKGROUND AND PROFESSIONAL EXPERIENCE.**

13 A. I graduated from Marshall University with a Bachelor of Science degree in
14 Business Administration, and received a Master of Business
15 Administration degree from the University of Charleston in West Virginia.
16 I am a certified public accountant licensed in the state of North Carolina. I
17 began my career with DE Carolinas in 2006 as an external reporting
18 manager. I joined the Rate Department in 2008 as Rates Manager and was
19 responsible for providing regulatory support for retail and wholesale rates,
20 providing guidance on DE Carolinas and Duke Energy Progress, Inc.’s
21 (“DE Progress”) (collectively, the “Utilities”) Distributed Energy
22 Resource Program (DERP), Renewable Energy and Energy Efficiency

1 Portfolio Standard (“REPS”) compliance and cost recovery applications,
2 energy efficiency cost recovery, and fuel and fuel-related recovery
3 processes. In July 2016, I joined the Regulatory Affairs Department as
4 Regulatory Affairs Manager. I returned to the Rate Department in January
5 2018.

6 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS**
7 **COMMISSION?**

8 A. Yes. I testified before the Public Service Commission of South Carolina
9 (“PSCSC” or “Commission”) in DEC’s 2016, 2015, 2014 and 2013 fuel
10 and environmental cost recovery proceedings in Docket Nos. 2016-3-E,
11 2015-3-E, 2014-3-E and 2013-3-E, respectively. I also testified in DE
12 Carolinas and DE Progress’s 2015 DERP proceedings in Docket Nos.
13 2015-53-E and 2013-55-E.

14 **Q. Q. ARE YOU FAMILIAR WITH THE ACCOUNTING**
15 **PROCEDURES AND BOOKS OF ACCOUNT OF DUKE ENERGY**
16 **PROGRESS?**

17 A. Yes. The books of account of DE Carolinas follow the Uniform System of
18 Accounts prescribed by the Federal Energy Regulatory Commission.

19 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
20 **PROCEEDING?**

21 A. The purpose of my testimony is to discuss the results of DE Carolinas’
22 operations under present rates on the basis of an adjusted historical Test
23 Period using the twelve month period ended December 31, 2017 (the “Test

1 Period"). I discuss the additional revenue required as a result of the cost
2 of service based on the pro forma costs in the Test Period. I discuss
3 several pro forma adjustments to the Company's Test Period operating
4 expenses and rate base. I provide the capital structure used in developing
5 the revenue requirements in this case. I also explain the requests the
6 Company is making regarding excess deferred income taxes ("EDIT")
7 rider and cost recovery related to grid improvement investments.

8 **Q. DOES YOUR TESTIMONY INCLUDE ANY EXHIBITS?**

9 A. Yes, I have included 3 exhibits. Smith Exhibit 1 sets forth the operating
10 results under current and proposed rates. Smith Exhibit 2 shows the
11 calculation of the proposed EDIT rider to return certain tax change
12 benefits to customers. Smith Exhibit 3 shows the Company's proposed
13 Phase 1 and Phase 2 base rate step-ups related to the Grid Improvement
14 Plan.

15 **Q. WERE THESE EXHIBITS PREPARED BY YOU OR UNDER**
16 **YOUR DIRECTION AND SUPERVISION?**

17 A. Yes, these exhibits were prepared under my supervision.

18 **II. DETERMINING THE REVENUE REQUIREMENT**

19 **Q. WHAT IS THE REVENUE REQUIREMENT AND HOW DID DE**
20 **CAROLINAS CALCULATE IT?**

21 A. The revenue requirement represents the annual revenues necessary for the
22 Company to recover its operating expenses (including depreciation and
23 taxes) and provide its investors with a fair rate of return on the investment

1 in rate base. DE Carolinas determined its operating costs by identifying
2 depreciation and amortization expense, operations and maintenance
3 (“O&M”) expense, fuel expense, taxes, and other expenses charged to
4 utility operations and recorded in its accounting records for the Test
5 Period. The amount of rate base is determined by adding the year-end
6 balances in the Company’s accounting records of plant in service,
7 accumulated depreciation, materials and supplies (including fuel
8 inventory) and components of working capital, including certain
9 regulatory assets and liabilities, less deferred taxes and operating reserves.
10 Next, a cost of service study is prepared that allocates and assigns these
11 actual Company operating costs and rate base amounts to determine the
12 per book cost for providing electric service to the Company’s South
13 Carolina retail operations. DE Carolinas’ Witness Hager discusses in
14 greater detail the allocation process and methodologies used to develop
15 these amounts.

16 Following the cost of service study, the actual Test Period expense
17 and rate base levels, as allocated to the South Carolina retail operations,
18 were adjusted for known and measurable changes, as described below and
19 in the testimony of Witnesses Pirro and McGee. DE Carolinas made
20 certain accounting and pro forma adjustments to actual operating income
21 and rate base for the Test Period to reflect known and measurable changes
22 in order to: (i) normalize for abnormal events; (ii) annualize part year
23 recurring effects to a full year effect; and (iii) show actual changes in

1 costs, revenues or the cost of the Company's property used and useful, or
2 to be used and useful within a reasonable time after the Test Period, in
3 providing service.

4 After the determination of operating expenses and rate base for the
5 Company's South Carolina retail operations, rate base is split between the
6 Company's debt investors and equity investors using the Company's
7 proposed capital structure of 53 percent equity and 47 percent debt. Then,
8 the annual cost of debt is calculated. The income available for the
9 Company's equity investors is determined by subtracting the cost of debt
10 from the operating income produced by the current revenues received
11 from South Carolina retail customers less operating expenses. Finally, the
12 required revenue increase necessary to produce the requested equity return
13 on the amount of the equity invested in rate base is determined.

14 Smith Exhibit 1 sets forth the rate base, operating revenues,
15 operating expenses and operating income the Company earned during the
16 Test Period and the adjusted amounts the Company supports for use in
17 calculating its proposed revenue requirement.

18 **III. RESULTS OF OPERATIONS UNDER EXISTING AND**
19 **PROPOSED RATES**

20 **Q. PLEASE DESCRIBE SMITH EXHIBIT 1 TO YOUR TESTIMONY.**

21 A. Smith Exhibit 1 sets forth the operating results and data required by
22 Commission Reg. 103-823 regarding operating income, calculation of
23 additional revenue requirement, accounting adjustments, and rate base

1 information. The operating results are based on the Test Period noted
2 above, using the twelve months ended December 31, 2017, with
3 appropriate adjustments. This information is also shown on Pages 1
4 through 4d of Exhibit D of the Company's Application.

5 **Q. PLEASE EXPLAIN WHAT IS PRESENTED ON PAGE 1 OF**
6 **SMITH EXHIBIT 1 ENTITLED "OPERATING INCOME FROM**
7 **ELECTRIC OPERATIONS."**

8 A. Page 1 summarizes the Company's operating income from electric
9 operations for the Test Period both for total Company operations and
10 South Carolina retail operations before the necessary accounting
11 adjustments. It also shows the Company's operating income from electric
12 operations for South Carolina retail operations after the necessary
13 accounting adjustments and the rate of return on South Carolina retail rate
14 base the Company would earn in the Test Period after reflecting those
15 adjustments.

16 Columns 1 and 2 set forth the actual operating revenues, expenses
17 and rate base from the per book cost of service study for the Company and
18 for its South Carolina retail jurisdiction, respectively.

19 Column 3 summarizes the accounting adjustments allocated to
20 South Carolina retail operations necessary to reflect a representative level
21 of operating income and rate base based on known changes in costs. These
22 adjustments are shown on Smith Exhibit 1, Page 3, and are explained later
23 in my testimony and in the testimony of Witnesses Pirro and McGee.

1 Column 4 shows adjusted South Carolina retail operations.

2 Column 5, Line 1 shows the additional revenue requested in this
3 proceeding of \$231 million. The Company is also proposing a rider to
4 decrease revenues by \$63 million for certain tax benefits for a net increase
5 of \$168 million. This is the increase in revenues justified as necessary to
6 cover the Company's cost of service, including a rate of return on
7 members' equity of 10.50 percent as discussed in the testimony of
8 Witnesses Sullivan and Hevert. Column 5 also shows the effect of the
9 revenue increase on general taxes, the Commission regulatory fee, and
10 income taxes.

11 Column 6, Line 13 shows adjusted operating income after the
12 proposed increase in revenues. Column 6, Line 14 shows the adjusted
13 retail rate base. Dividing operating income by rate base produces the 7.74
14 percent overall rate of return that the Company is justifying in this case, as
15 shown in Column 6, Line 15.

16 **Q. PLEASE EXPLAIN WHAT IS PRESENTED ON PAGE 2 OF**
17 **SMITH EXHIBIT 1 ENTITLED "CALCULATION OF**
18 **ADDITIONAL REVENUE REQUIREMENT."**

19 A. Page 2 sets forth the calculation of the additional revenue requirement
20 necessary to produce a 10.50 percent rate of return on members' equity
21 using the format required by Commission Reg. 103-823. To develop this
22 figure, the South Carolina retail rate base was allocated to its capital
23 source components of long-term debt and members' equity. This allocation

1 was based on the capitalization ratios of 47 percent long-term debt and 53
2 percent members' equity, which is the Company's targeted capital
3 structure that this Commission found just and reasonable in its *Order*
4 *Approving Increase in Rates and Charges and Settlement Agreement*,
5 Order No. 2013-661, issued in Docket No. 2013-59-E in DE Carolinas'
6 last general rate case and in its *Order Approving Increase in Rates and*
7 *Charges and Settlement Agreement*, Order No. 2016-871, issued in Docket
8 No. 2016-227-E in DE Progress's last general rate case. Witness Sullivan
9 also comments in his testimony that the 53 percent equity ratio will help
10 the Company enable access to capital at reasonable rates.

11 The amount of operating income needed to cover interest
12 applicable to South Carolina retail rate base was computed using the
13 embedded cost of long-term debt rate, shown in Columns 4 and 7 on Line
14 1. Operating income needed to cover long-term debt interest, shown in
15 Columns 5 and 8 on Line 1, was deducted from total operating income
16 shown in Column 5 on Line 3, to derive operating income remaining for
17 members' equity at present rates as shown in Column 5 on Line 2.

18 Applying the 10.50 percent rate of return on members' equity to
19 that portion of the South Carolina retail rate base financed by members'
20 equity, shown in Column 6, Line 2, produces an operating income
21 requirement for members' equity as shown in Column 8, Line 2.

22 The total operating income requirement shown in Column 8, Line
23 3, is the sum of the requirements for long-term debt and members' equity.

1 Comparing the operating income requirement to the operating income
2 before the proposed increase in Column 5, Line 3, results in the additional
3 operating income requirement shown in Column 8, Line 7 after
4 considering the impact of customer growth. To realize this additional
5 operating income, the Company must also collect in revenues the increase
6 in the license fee at a rate of 0.3 percent (\$3 for each \$1,000 of gross
7 receipts), the public utility assessment fee of 0.14 percent, state income
8 taxes at a rate of 5 percent, and federal income taxes at a rate of 21
9 percent. The additional operating income requirement and the additional
10 taxes and fees produces an additional revenue requirement of \$231million.

11 **Q. HOW IS THIS ADDITIONAL REVENUE REQUIREMENT**
12 **ALLOCATED AMONG THE CLASSES AND USED TO DEVELOP**
13 **THE TARGET REVENUE REQUIREMENT FOR RATE DESIGN?**

14 A. Witness Pirro's Exhibit 4 shows how the additional revenue requirement is
15 spread among the classes and how the target revenue requirements for rate
16 design are established.

17 **IV. ACCOUNTING AND PRO FORMA ADJUSTMENTS**

18 **Q. PLEASE EXPLAIN PAGE 3 OF SMITH EXHIBIT 1 CAPTIONED**
19 **"DETAIL OF ACCOUNTING ADJUSTMENTS-SOUTH**
20 **CAROLINA RETAIL."**

21 A. Page 3 sets forth the individual accounting and pro forma adjustments to
22 operating revenues and expenses, including the income tax effects for
23 South Carolina retail electric operations, that were shown in total on Page

1 1 of Smith Exhibit 1 in Column 3. The totals of the columns shown on
 2 Line 36 of Page 3 are the amounts carried forward to Column 3 of Page 1
 3 of Smith Exhibit 1. The impact of the accounting and pro forma
 4 adjustments on rate base are shown on Pages 4 – 4d of Smith Exhibit 1.

5 **Q. PLEASE LIST THESE ACCOUNTING AND PRO FORMA**
 6 **ADJUSTMENTS.**

7 A. The accounting and pro forma adjustments that were made by the
 8 Company are as follows (the chart below indicates which witness is
 9 sponsoring each adjustment):¹

ADJUSTMENTS TO OPERATING REVENUES AND EXPENSES		
(Page 3 of Smith Exhibit 1)		
Line No.	Adjustment Title	Witness
1	Annualize Retail revenues for current rates	Pirro
2	Update fuel costs to approved rate and other fuel related adjustments	McGee
3	Open	
4	Adjust the amount of CWIP in rate base	Smith
5	Eliminate unbilled revenues	Smith
6	Adjust for costs recovered through non-fuel riders	Smith
7	Amortize deferred cost balance related to Carolinas West Control Center	Smith
8	Annualize depreciation on year end plant balances	Smith
9	Annualize property taxes on year end plant balances	Smith
10	Adjust for new depreciation rates and request deferral	Smith
11	Adjust for post test year additions to plant in service	Smith

¹ DE Carolinas intentionally left certain pro forma adjustment line numbers in an “Open” status to keep similar pro forma adjustment line numbers the same between the Company and DE Progress’ concurrent rate cases to allow for easy comparison.

ADJUSTMENTS TO OPERATING REVENUES AND EXPENSES		
(Page 3 of Smith Exhibit 1)		
Line No.	Adjustment Title	Witness
12	Reflect 2017 Lee Combined Cycle addition to plant in service	Smith
13	Amortize deferred cost balance related to Lee Combined Cycle	Smith
14	Adjust for Lee Nuclear amortization	Smith
15	Adjust reserve for end of life nuclear costs	Smith
16	Adjust coal inventory	Smith
17	Adjust for approved regulatory assets and liabilities	Smith
18	Amortize deferred environmental costs	Smith
19	Amortize deferred cost balance related to SC AMI	Smith
20	Normalize for storm costs	Smith
21	Annualize O&M non-labor expenses	Smith
22	Normalize O&M labor expenses	Smith
23	Update benefits costs	Smith
24	Levelize nuclear refueling outage costs	Smith
25	Amortize rate case costs	Smith
26	Adjust aviation expenses	Smith
27	Open	
28	Adjust for credit card fees	Smith
29	Adjust O&M for executive compensation	Smith
30	Adjust for Customer Connect Project additional expense and deferral	Smith
31	Adjust vegetation management expenses	Smith
32	Synchronize interest expense with end of period rate base	Smith
33	Adjust 1/8 O&M for accounting and proforma adjustments	Smith
34	Adjust for Federal tax rate change	Smith
35	Adjust deferred cost balance related to SC Grid	Smith

Q. IN CALCULATING THE TOTAL REVENUE REQUIREMENT IN THIS PROCEEDING, DID YOU REVIEW EACH OF THE ACCOUNTING AND PRO FORMA ADJUSTMENTS?

1 A. Yes, I did.

2 **Q. IN YOUR OPINION, DO THESE ACCOUNTING AND PRO**
3 **FORMA ADJUSTMENTS REFLECT KNOWN AND**
4 **MEASURABLE CHANGES TO THE COMPANY'S TEST PERIOD**
5 **OPERATING EXPENSES, REVENUES, AND RATE BASE?**

6 A. Yes, the adjustments set forth on Page 3 of Smith Exhibit 1, as more fully
7 supported below and in the testimonies of Witnesses McGee and Pirro,
8 reflect known and measurable changes to the Company's Test Period
9 revenues, expenses and rate base. Adjustments that contain projections
10 through December 31, 2018 may be updated with actual results prior to
11 the hearing.

12 **Q. PLEASE DESCRIBE THE PRO FORMA ADJUSTMENTS.**

13 A. The following are descriptions of the pro forma adjustments:

14 **1. Annualize retail revenues for current rates**

15 This adjustment annualizes revenue based on the rates in effect at the time
16 of the application, excluding the Distributed Energy Resources Program
17 ("DERP") revenues recovered in the fuel rider, and removes revenues
18 recovered through the Demand Side Management/Energy Efficiency
19 ("DSM/EE") rider. This adjustment to revenues is discussed in more detail
20 in the testimony of Witness Pirro.

1 **2. Update fuel costs to factors approved in Docket No. 2017-3-E**

2 This adjustment adjusts fuel clause expense during the Test Period to
3 match the fuel clause revenues included in Adjustment Line 1. By
4 matching the expenses to the revenue, the adjustment ensures that no
5 increase is requested in this proceeding related to fuel and fuel-related
6 expenses that are recoverable through the fuel clause. However, certain
7 DERP expenses that are not readily identifiable in the general ledger are
8 eliminated by including an offsetting revenue adjustment to keep the
9 DERP incremental cost neutral in this case. This adjustment is described
10 in more detail in Witness McGee's testimony.

11 **3. Open**

12 **4. Adjust the amount of CWIP included in rate base**

13 This adjustment increases rate base to include the balance of construction
14 work in progress ("CWIP") as of December 31, 2018. If these projects are
15 not in service by the time new customer rates in this case are effective, the
16 Company will stop accruing AFUDC on the portion of the projects that is
17 included in rate base starting with the new rates effective date.

18 **5. Eliminate unbilled revenue**

19 This adjustment eliminates unbilled revenue and related taxes recorded by
20 the Company in the test period.

21 **6. Eliminate costs recovered through non-fuel riders**

22 This adjustment removes expense items recovered through the DSM/EE
23 Rider. The revenues and expenses in this rider are reviewed each year in

1 an annual proceeding and should not impact the increase requested in this
2 proceeding.

3 **7. Amortize deferred cost balance related to Carolinas West Control**
4 **Center**

5 In Docket 2018-207-E, the Company petitioned for approval to defer into
6 a regulatory asset account the return and depreciation on the capital costs
7 at its weighted average cost of capital. The Commission approved the
8 Company's petition on August 7, 2018. Witness Oliver discusses the
9 Carolinas West Control Center in more detail. The total projected deferred
10 costs are \$5 million on a South Carolina retail basis. This adjustment
11 amortizes the deferred balance over a 3-year period, resulting in an annual
12 revenue requirement of \$2 million including net of tax return on the
13 unamortized balance of the regulatory asset.

14 **8. Annualize depreciation on year end plant balances**

15 This adjustment reflects the annualization of depreciation expense using
16 the depreciation rates in effect at the end of the test period applied to the
17 end of the Test Period level of plant in service. During the Test Period, the
18 Company recorded depreciation for plant additions from the point in time
19 when they went into service. This adjustment annualizes depreciation
20 expenses to reflect a full year level of depreciation on plant in service as of
21 the end of the Test Period using the depreciation rates that were in effect
22 during the Test Period.

1 **9. Annualize property taxes on year end plant balances**

2 This adjustment annualizes Test Period property taxes on plant in service
3 at December 31, 2017. Property taxes expensed in calendar year 2017
4 were assessed based on property balances at the end of 2016. Likewise,
5 property taxes expensed in the calendar year 2018 will be assessed based
6 on property balances at the end of 2017. This adjustment increases
7 property tax expense in the Test Period to reflect an annual level of
8 expense for property taxes based on the end of the Test Period level of
9 plant investment.

10 **10. Adjust for new depreciation rates and request permission to**
11 **establish a regulatory asset to defer incremental depreciation**
12 **expense**

13 This adjustment adjusts the annualized depreciation expense to reflect the
14 new depreciation rates based on the updated depreciation study prepared
15 by Gannett Fleming and discussed and supported by Witness Doss.
16 Implementing the new depreciation rates will result in an increase to
17 depreciation expense of approximately \$40 million on a system basis, or
18 \$10 million on a South Carolina retail basis. The Company is also
19 requesting permission to establish a regulatory asset to defer the
20 incremental depreciation expense resulting from the new depreciation
21 rates, if and as approved by the Commission. Specifically, the Company
22 seeks to defer approximately \$9 million on a South Carolina retail basis
23 from August 2018 up to the time new rates are in effect. The deferred

1 costs to be recorded on the Company's accounting records will be based
2 on actual costs. This adjustment amortizes the deferred balance over a 3-
3 year period. The increase in depreciation expense and the amortization of
4 the Regulatory Asset results in a revenue requirement of \$13 million.
5 Depreciation allows for the matching of expenses associated with an asset
6 to the revenue that the Company recognizes as a result of utilizing that
7 asset to provide service. Under GAAP, this is referred to as the matching
8 principle and is a fundamental concept in the accounting model. As part
9 of electric utility rate-making, annual depreciation expense is included
10 within the utility's Commission-approved based rates. The incremental
11 annual depreciation expense that the Company seeks to incur as described
12 above is not currently included within the Company's existing base
13 rates. Therefore, it is not possible for the Company to "match" this
14 expense with revenue to be collected. With such a mismatch of expense to
15 revenue, this event is a fundamental departure from the matching
16 principle.

17 **11. Adjust for post test year additions to plant in service**

18 This adjustment increases operating expenses and rate base for significant
19 production, transmission, distribution, general and intangible plant
20 additions the Company has incurred and will incur from the end of the
21 Test Period through December 2018. Witnesses Fallon, Miller, Oliver,
22 Hunsicker and Schneider discuss plant additions in their testimonies.

1 **12. Reflect 2017 Lee Combined Cycle addition to plant in service**

2 This adjustment increases rate base to include electric plant in service
3 amounts for the W.S. Lee Combined Cycle Plant (“Lee CC”). Lee CC is a
4 753-megawatt, natural gas-fired combined cycle plant located in Anderson
5 County, South Carolina. Lee CC was completed and in service in April
6 2018 and replaces older, less efficient coal units that have been retired.
7 The facility is jointly owned by DE Carolinas and North Carolina Electric
8 Membership Cooperative (“NCEMC”). NCEMC’s ownership percentage
9 is 12.735 percent. The adjustment includes in rate base the projected
10 electric plant in service balance for the Lee CC project as of December 31,
11 2018, which is \$596 million on a system basis, or \$144 million on a South
12 Carolina retail basis. These amounts reflect DE Carolinas costs net of
13 reimbursement from NCEMC for their ownership share of the facility.
14 This increase to rate base results in an increase to the annual revenue
15 requirement of approximately \$17 million.

16 **13. Amortize deferred cost balance related to Lee Combined Cycle**

17 In Docket 2018-207-E, the Company petitioned for approval to defer into
18 a regulatory asset account costs incurred from the time the facility was
19 placed into service until the time the costs are reflected in the new rates
20 from this proceeding. The costs the Company requested to be deferred are
21 the return and depreciation on the capital costs, the associated incremental
22 non-fuel O&M expenses, property taxes and the carrying cost on the
23 deferred costs at its weighted average cost of capital. The Commission

1 approved the Company's petition on August 7, 2018. The total projected
2 deferred costs are \$22 million on a South Carolina retail basis. This
3 adjustment amortizes the deferred balance over a 3-year period, resulting
4 in an annual revenue requirement of \$8 million, which includes a net of
5 tax return on the unamortized balance of the Regulatory Asset.

6 **14. Adjust for Lee Nuclear amortization**

7 On August 25, 2017, the Company filed a letter with the Commission in
8 SCPSC Docket No. 2011-20-E notifying the Commission that it was
9 requesting approval from the North Carolinas Utilities Commission to
10 cancel the Lee Nuclear Project. Additional information regarding the
11 Company's request for cancellation is reflected in Witness Fallon's direct
12 testimony. As a result of the cancellation of the project, the Company
13 requests permission to establish a Regulatory Asset consisting of the
14 balance of Lee nuclear development costs, adjusted to remove non-
15 depreciable land costs and estimated expenditures through May 31, 2019.
16 The total system estimated balance of cost at May 31, 2019 is \$559
17 million, which includes non-depreciable land costs of \$41 million. The
18 proforma moves the non-depreciable land costs to Plant Held for Future
19 Use. The total balance for which the Company is requesting recovery
20 from South Carolina retail customers is \$125 million. The annual revenue
21 requirement requested in this proceeding is \$20 million, comprised of
22 annual amortization expense, over 12 years, of \$11 million, and a net of

1 tax return of \$9 million on the unamortized balance of the Regulatory
2 Asset and plant held for future use.

3 **15. Adjust reserve for end of life nuclear costs**

4 This adjustment adjusts depreciation and amortization expenses in order to
5 establish a reserve for end of life nuclear costs. There are some end-of-life
6 costs at a nuclear plant that are not captured in a decommissioning study.
7 One example of this is the expense to write off the materials and supplies
8 in inventory at the time of decommissioning that have little or no salvage
9 value. The Company is proposing to create a reserve to start accruing for
10 these end-of-life expenses for obsolete materials and supplies and,
11 therefore, create a better matching of cost and benefit for ratemaking
12 purposes. The annual accrual amount will be determined by dividing the
13 projected inventory balance at the end of each unit's life by the number of
14 years remaining in the unit's life and summing this result for the
15 Company's three nuclear plants. In this proceeding, the Company is
16 requesting an annual accrual amount of approximately \$5 million as
17 allocated to South Carolina retail. The annual accrual amount can be
18 reviewed and adjusted, if needed, in each future general rate case before
19 the end of the plant's life. The reserve, once it is created, will be included
20 as an offset to rate base in the cost of service, and the pro forma decreases
21 rate base to reflect one year's worth of the accrual.

22 The Company is also proposing to create a reserve to start accruing for the
23 expense related to a portion of the last core of nuclear fuel in the reactor at

1 the end-of-life of its generating plants and, therefore, create a better
2 matching of cost and benefit for ratemaking purposes. The annual accrual
3 amount will be determined by dividing the projected remaining value of
4 the last core of nuclear fuel at the end of each unit's life by the number of
5 years remaining in the unit's life and summing this result for the
6 Company's three nuclear plants. In this proceeding, the Company is
7 requesting an annual accrual amount of \$2 million as allocated to South
8 Carolina retail. The annual accrual amount can be reviewed and adjusted,
9 if needed, in each future general rate case before the end of the plant's life.
10 The reserve, once it is created, will be included as an offset to rate base in
11 cost of service and the pro forma decreases rate base to reflect one year's
12 worth of the accrual.

13 **16. Adjust coal inventory**

14 This adjustment increases the Company's actual coal inventory at the end
15 of the Test Period to reflect a targeted 40-day full load burn for each of the
16 coal generating plants. This change in coal inventory for the South
17 Carolina retail jurisdiction is shown on Smith Exhibit 1, Page 4c, Line 3,
18 Column 3.

19 **17. Adjust for approved regulatory assets and liabilities**

20 This adjustment removes from Test Period costs the amortization of
21 various regulatory assets or liabilities that have been approved by the
22 Commission in previous general rate case proceedings. The amortization
23 period for items removed will expire before proposed new rates are

1 effective, and thus should not be included in Test Period expenses on
2 which rates are based.

3 **18. Amortize deferred environmental costs**

4 On June 8, 2016, the Commission granted DEC's petition in Docket No.
5 2016-196-E for authority to defer in a regulatory asset account certain
6 costs incurred in connection with compliance with federal and state
7 environmental requirements as it relates to Coal Combustion Residuals
8 ("CCR" or "coal ash"). The nature of these costs is described in more
9 detail in Witness Kerin's testimony. No fines, penalties, or costs on which
10 DE Carolinas has agreed to forego recovery are included in the deferral.
11 The Company also proposed to offset the South Carolina Ash Basin
12 Closure Costs with the excess decommissioning regulatory liabilities as
13 provided in the decommissioning orders. While the costs to comply with
14 CAMA and the CCR Rule are largely duplicative, there are a small portion
15 of the costs that the Company has determined are specific to CAMA,
16 unique to North Carolina and appropriate for direct assignment to North
17 Carolina, as discussed by Witness Kerin. In the deferral calculation,
18 CAMA-specific costs are excluded for SC retail. Some of the deferred
19 compliance costs are related to ash basin closure and are subject to asset
20 retirement obligation ("ARO") accounting per Generally Accepted
21 Accounting Principles ("GAAP"). Some of the deferred compliance costs
22 are related to the continued operation of the active plants and are not
23 subject to ARO accounting, and instead are capitalized to plant in service.

1 The compliance costs included in this case are based on actuals from
2 January 1, 2015 through September 30, 2018, plus a projection, as of the
3 time of filing, from October 1, 2018 through December 31, 2018. The total
4 system spend on ash basin closure costs subject to ARO accounting during
5 this period (January 2015 through December 2018) for DE Carolinas is
6 \$958 million. After removing CAMA-specific costs, applying allocations
7 factors, adjusting for the excess decommissioning regulatory liabilities and
8 incorporating the return on the deferred costs, the expected deferred
9 balance as of May 31, 2019, on a South Carolina retail basis is \$231
10 million. The total system compliance amounts placed in service related to
11 continued operations at active plants during the year 2018 were \$528
12 million. The deferred depreciation and return on these investments results
13 in an additional deferred balance on a South Carolina retail basis of \$11
14 million, for a total deferred balance of \$242 million. The Company
15 proposes to amortize the combined Regulatory Asset of \$242 million over
16 5 years. The annual amortization expense is \$48 million. When added
17 together with the net of tax return on the unamortized balance of \$14
18 million, the total revenue requirement requested in this case for deferred
19 coal ash related compliance costs is \$62 million. The Company expects to
20 continue to invest significant amounts related to coal ash compliance after
21 the December 2018 cut-off in this case. Instead of requesting recovery of
22 an ongoing level of these costs in this case, the Company is requesting the
23 Commission approve a continuation of the deferral, similar to what it

1 approved in Docket 2016-196-E, for costs not included in this case.
2 Specifically, the Company is requesting approval to defer CCR
3 compliance spend related to ash basin closure beginning January 1, 2019,
4 the depreciation and return on CCR compliance investments related to
5 continued plant operations placed in service on or after January 1, 2019,
6 and a return on both deferred balances at the overall rate of return
7 approved in this case.

8 **19. Amortize deferred cost balance related to SC AMI**

9 In Docket 2016-240-E, the Company petitioned for approval to defer into
10 a regulatory asset account the incremental operating and maintenance
11 expense and the depreciation expense incurred once the Advanced
12 Metering Infrastructure technology (AMI) meters are installed, as well as
13 the associated carrying costs on the investment and deferred costs at its
14 weighted average cost of capital. The Commission approved the
15 Company's petition on June 29, 2016. Witness Schneider discusses these
16 costs in more detail. The total projected deferred costs are \$38 million on
17 a South Carolina retail basis. This adjustment amortizes the deferred
18 balance over a 3-year period, resulting in an annual revenue requirement
19 of \$15 million, including net of tax return on the unamortized balance of
20 the regulatory asset.

1 **20. Normalize for storm costs**

2 This pro forma adjustment normalizes storm restoration costs to an
3 average level of costs the Company has experienced over the last ten
4 years. This adjustment increases Test Period costs to the 10- year average
5 South Carolina retail cost of \$7 million.

6 **21. Annualize O&M non-labor expenses**

7 This adjustment annualizes Test Period O&M expenses excluding fuel,
8 purchased power, and labor costs to reflect the change in unit costs that
9 occurred during this period.

10 **22. Normalize O&M labor expenses**

11 This adjustment adjusts the wages and salaries, related employee benefit
12 costs to reflect annual levels of costs as of July 1, 2018. This adjustment
13 also reflects changes in related payroll taxes.

14 **23. Update benefits costs**

15 This adjustment updates the Test Period cost of labor-related benefits to
16 match the result of an updated study performed by the Company's
17 consultants.

18 **24. Levelize nuclear refueling outage costs**

19 In the Company's last general rate case, the Commission approved an
20 accounting mechanism that levelized certain costs related to nuclear
21 refueling outages. This adjustment annualizes the amortization expense
22 related to this mechanism incurred during the Test Period to the level
23 experienced at the end of the Test Period.

1 **25. Amortize rate case costs**

2 This adjustment amortizes the incremental rate case costs incurred for this
3 docket over a 5-year period.

4 **26. Adjust aviation expenses**

5 This adjustment removes 50 percent of the corporate related aviation
6 expenses allocated to DE Carolinas in the Test Period that are not related
7 to aerial patrol. While the Company believes these costs are reasonable,
8 prudent and appropriate to recover from customers, we have for purposes
9 of this case made an adjustment to this item.

10 **27. OPEN**

11 **28. Adjust for credit card fees**

12 Currently, customers who pay their electric bill by credit card, debit card
13 or ACH are required to pay a fee of \$1.50 per transaction to the third party
14 who processes these payments. As described in the testimony of Witness
15 Ghartey-Tagoe, the Company is now proposing to implement a fee-free
16 credit/debit card program that would allow residential customers to utilize
17 their credit cards or debit cards to pay their utility bills without paying a
18 surcharge or convenience fee, and instead for the Company to pay these
19 costs to the third party and recover the cost from all customers as part of
20 its cost of service. This adjustment increases operating and maintenance
21 expense by \$3 million to reflect this cost including the growth in number
22 of transactions expected as a result of this change.

1 **29. Adjust O&M for executive compensation**

2 This adjustment removes 50 percent of the compensation of the four Duke
3 Energy executives with the highest level of compensation allocated to DE
4 Carolinas in the test period. While the Company believes these costs are
5 reasonable, prudent and appropriate to recover from customers, we have
6 for the purposes of this case made an adjustment to this item.

7 **30. Adjust for Customer Connect project**

8 The Customer Connect project will replace the Company's current billing
9 system and is currently planned to be placed in service in 2022. The
10 project is described in more detail in the testimony of Witness Hunsicker.
11 Due to the nature of the project costs, a significant amount of the spending
12 between now and the in-service date will be O&M. This adjustment
13 increases the Test Period O&M by \$4 million (from \$0.7 million to \$4.7
14 million), which is the average incremental level on a South Carolina retail
15 basis expected over the next two years. These estimates are based on
16 signed contracts for the primary software, systems integration and change
17 management professional services, that resulted from an extensive request
18 for proposal process conducted in 2016. This adjustment also requests
19 recovery of deferred expenses from January 1, 2018 until the time the
20 costs are reflected in the new rates from this proceeding. In Docket 2018-
21 207-E, the Company petitioned for approval to defer into a regulatory
22 asset account the incremental operating and maintenance expenses
23 associated with the deployment of the Customer Connect project and

1 carrying costs on the deferred costs at its weighted average cost of capital
2 incurred since January 1, 2018 until mid-2019. This request was approved
3 by the Commission on August 7, 2018. The total estimated deferred costs
4 at May 31, 2019 are expected to be \$5 million. The Company is seeking
5 recovery of the deferred costs over a three-year period including a net of
6 tax return on the unamortized balance of the regulatory asset resulting in a
7 revenue requirement of \$2 million. The increase in O&M of \$4 million
8 plus the annual revenue requirement related to the recovery of the deferred
9 costs of \$2 million equal a combined revenue increase for this adjustment
10 of \$6 million.

11 **31. Adjust vegetation management expenses**

12 This adjustment increases operating and maintenance expense in the Test
13 Year to reflect enhancements to the Company's on-going vegetation
14 management program. Witness Oliver discusses the Company's
15 vegetation program in more detail.

16 **32. Synchronize interest expense with end of period rate base**

17 This adjustment adjusts income taxes for the tax effect of the annualization
18 of interest expense reflected in the pro forma cost of service.

19 **33. Adjust 1/8 O&M for accounting and pro forma adjustments**

20 This adjustment adjusts the Company's rate base to include the additional
21 working capital required as a result of the additional O&M expenses the
22 Company is proposing in this proceeding as shown on Line 2, Column 3
23 of Smith Exhibit 1, Page 4d.

1 **34. Adjust for Federal tax change**

2 Witness Panizza discusses the Tax Cuts and Jobs Act (the “Tax Act”),
3 which became law on December 22, 2017. One change he discusses from
4 the Tax Act is the reduction in the corporate income tax rate from 35 to 21
5 percent. This adjustment reduces the test period income tax expense to
6 reflect this change. The adjustment also reduces accumulated deferred
7 income taxes for one year’s worth of the deferred income tax expense
8 adjustment. The net result of this adjustment is a reduction in revenue
9 requirement for customers of \$66 million. In addition to impacting tax
10 expense, the reduction in the corporate income tax rate also impacts the
11 levelized amortizations established in the last rate case (Lines 21 and 27 of
12 Settlement Agreement Attachment A). Because the tax rate is now lower,
13 the after-tax rate of return is higher, which would result in an increase in
14 the levelized amortization expense. Instead of proposing to increase the
15 amortization expense in this case, the Company is proposing to keep the
16 amortization expense equal to the amount established in the last rate case.
17 This will result in a longer amortization period than was anticipated in that
18 case. Other impacts of the Tax Act and benefits for customers are
19 described later in my testimony.

20 **35. Grid Improvement Plan Deferral**

21 In Docket 2018-206-E, the Company requested and the Commission
22 approved deferral of costs related to the Company’s Grid Improvement
23 Plan. In 2018, the Company has, or will by December, place in service

1 investments of \$44 million on a South Carolina retail basis. The deferral
2 of the depreciation, O&M, property tax, and return on these investments
3 plus the return on deferred balance, results in a deferred balance as of May
4 31, 2019, of \$7 million. This adjustment amortizes this deferred balance
5 over a two-year period for a revenue requirement impact of \$4 million for
6 this adjustment. I discuss the proposed recovery for investments under the
7 Grid Improvement Plan placed in service after December 2018 later in my
8 testimony.

9 **Q. PLEASE EXPLAIN WHAT IS PRESENTED ON PAGES 4**
10 **THROUGH 4d OF SMITH EXHIBIT 1.**

11 A. Page 4 shows total Company and South Carolina retail components of
12 original cost rate base. The total Company amounts and South Carolina
13 retail components were taken from the Company's Cost of Service Study
14 as of December 31, 2017.

15 Pages 4a, 4b, 4c, and 4d are details of components making up
16 original cost rate base as of December 31, 2017 adjusted for known and
17 measurable changes. On each of these four pages, Column 1 shows the
18 total Company per book amounts at December 31, 2017; Column 2
19 reflects the amount for South Carolina retail electric operations; Column 3
20 sets forth the accounting adjustments allocated to South Carolina retail
21 operations; and Column 4 reflects the South Carolina retail amounts
22 including adjustments.

Page 4a is a summary of the Company's investment in electric plant in service as of December 31, 2017 by functional classification. Page 4b details accumulated depreciation and amortization for each of the classes of electric plant in service. The composite depreciation rates based on end of 2017 plant balances for each class of property are shown at the bottom of the page on Lines 8 through 15. The depreciation rates underlying these composite calculations are supported by Witness Doss. Page 4c is a summary of the Company's investment in materials and supplies as of December 31, 2017 included in rate base. Page 4d reflects the working capital investment included in rate base.

V. EXCESS DEFERRED INCOME TAX ("EDIT") RIDER

Q. PLEASE EXPLAIN THE COMPANY'S PROPOSED EDIT RIDER.

A. Witness Panizza discusses the Tax Act, which became law on December 22, 2017. Earlier in my testimony, I described how the Company has incorporated into the base rate revenue requirements in this case the reduction in the corporate income tax rate from 35 to 21 percent. For the remaining benefits of the Tax Act, the Company is proposing to create an EDIT rider. Smith Exhibit 2 shows the Year 1 calculation of this rider, and then shows for illustrative purposes how the rider would be calculated in future years. The rider contains the following five categories of benefits for customers:

1. Federal EDIT - Protected
2. Federal EDIT – Unprotected, PP&E related

1 3. Federal EDIT – Unprotected, non PP&E related

2 4. Deferred Revenue

3 5. NC EDIT

4 Federal EDIT – Protected, Unprotected PP&E related, and Unprotected,
5 non PP&E related

6 At the end of 2017, the company had a certain amount of Accumulated
7 Deferred Income Taxes (“ADIT”) on its balance sheet. These are income
8 taxes which the Company has expensed for accounting purposes, but for
9 which the Company will not need to pay the IRS until some point in the
10 future. Because the Company has use of the cash until it has to pay the
11 IRS, the ADIT is included as a reduction to rate base and is basically used
12 as a source of financing for investments used to benefit customers – poles,
13 lines, generation plant investments, etc. With the change in the federal tax
14 rate, the amount that the Company must pay to the IRS in the future for
15 these ADIT obligations has been reduced. At the end of 2017, the
16 Company calculated this reduction and the difference was carved out and
17 stayed on the balance sheet, and in rate base, as EDIT. Instead of having
18 an obligation to pay this money to the IRS in the future, the Company now
19 has an obligation to pay it to customers. However, since the money is
20 currently being used to finance investments benefitting customers, as the
21 Company pays the money to customers, it must find other sources of
22 financing for these investments. If the money is returned to customers too

1 quickly, it can put pressure on the Company's credit metrics and create
2 rate volatility for customers. Within EDIT, there are three subcategories.

3 ▪ Protected – These amounts are generally related to Property, Plant
4 & Equipment (PP&E) and there are specific IRS requirements that
5 require that this amount be returned to customers no more quickly
6 than the prescribed method. The amortization period the Company
7 is using here is called the Average Rate Assumption Method
8 (“ARAM”) and results in a Year 1 amortization rate for this
9 category of 3.10 percent. Also, because under this method, the
10 Company would have been allowed to return a certain amount of
11 this category to customers in 2018, but did not, the Company
12 calculated the amount that could have been returned and moved it
13 into the Unprotected, non-PP&E related category. This is shown
14 on Line 2 of Smith Exhibit 2 Page 1.

15 ▪ Unprotected PP&E related – These amounts are also related to
16 PP&E but do not fall under the federal guidelines for protected
17 status. Because the Company would have paid these amounts to
18 the IRS over the remaining life of the underlying property, the
19 Company is proposing to return these amounts to customers over a
20 20-year period.

21 ▪ Unprotected non PP&E related – These amounts are not related to
22 property and instead are related to items such as regulatory assets
23 and liabilities, and other balance sheet items, and also include the

1 amount transferred from the Protected category. The Company is
2 proposing to return these amounts to customers over a 5-year
3 period.

4 Deferred Revenue

5 As directed in Docket 2017-381-A, the Company began deferring
6 effective January 1, 2018, the impact on customer rates of the reduction in
7 the federal corporate income tax rate. Line 4 of Smith Exhibit 2, Page 1,
8 shows the projected balance for this liability as of December 2018. The
9 Company will continue to defer the impact from January 1, 2019 through
10 the new rates effective date in this case. Those additional amounts are not
11 known at this time, and will be included in the Year 2 EDIT rider
12 calculation. The Company has also netted against the projected balance
13 the deferred balances related to the Distributed Energy Resource Program
14 (“DERP”). This offset is discussed further by Witness Gharthey-Tagoe.

15 NC EDIT

- 16 ▪ Similar to the EDIT that results from the reduction in the federal
17 corporate income tax rate, there are EDIT balances that resulted
18 from the reduction in the North Carolina state corporate tax rate.
19 The Company is proposing to return these amounts to customers
20 over a 5-year period.

1 **Q. PLEASE EXPLAIN HOW THESE FIVE CATEGORIES OF**
2 **BENEFITS WILL BE INCORPORATED INTO THE EDIT RIDER.**

3 A. The proposed rider will contain the amortization for each of these five
4 categories of benefits. These amounts can be seen in Columns B through
5 G of Smith Exhibit 2 Page 2. As these amounts are refunded to customers,
6 rate base will increase. As such, the rider also calculates the return on the
7 increased rate base since the last rate case. This is shown in Column L
8 Smith Exhibit 2 Page 2. Column M shows the sum of the amortization
9 and return, and Column N shows the revenue requirement for the rider
10 grossed up for license fee and the public utility assessment fee. The
11 amount in the Year 1 row on Smith Exhibit 2 Page 2 of \$63 million
12 decrease is the rider that is being proposed in this case. Some of the
13 balances used to create the Year 1 rider are as of the end of 2017 or
14 projected end of 2018 balances. I will provide an updated version of this
15 exhibit with end of 2018 actual balances prior to the hearing. I will also
16 update the exhibit with whatever the latest known ARAM rate is at that
17 time to avoid possible normalization violations. Years 2 through 5 are
18 shown for illustrative purposes. However, the actual rider amounts for
19 those years may change based on several factors.

20 First, if there are additional adjustments to any of the balances on
21 Rows 1 through 5 of the exhibit, the annual amortization amounts will be
22 recalculated to accommodate the change in balance. For example, the
23 Company has included the projected deferred revenue through December

1 2018 in the Year 1 rider. The Company will continue to defer revenue for
2 the change in the federal income tax rate until new rates effective in this
3 case reflect the change. This additional deferred balance is unknown at
4 this time, but will be incorporated into the rider in subsequent years.

5 A second factor that would impact the calculation of the rider
6 beyond Year 1 is changes in the ARAM rate. The Company updates this
7 rate annually and the most current rate must be used when establishing
8 customer rates.

9 A third factor that would impact the calculation of the rider beyond
10 Year 1 is the impact of future rate cases. In future rate cases, the EDIT
11 balance in base rates shown in Column J and the rate of return used to
12 calculate Column L of Smith Exhibit 2, Page 2 would be updated based on
13 what is approved in that case.

14 Finally, the retention factor used to calculate Column N will be
15 updated to reflect any future changes in the license fee or public utility
16 assessment fee rates as needed.

17 The Company proposes to file the rider amounts, along with the
18 spread to the classes and derivation of the rate, for each subsequent year
19 with the Commission in this docket by March 31, for rider rates effective
20 June 1.

21 The year one EDIT revenue requirement, shown in Smith Exhibit
22 2, was provided to Witness Pirro who explains the derivation of the rider

1 rate in his testimony. Witness Hager explains how the amounts were
2 allocated to the customer classes in her testimony.

3 **VI. GRID IMPROVEMENT PLAN REQUEST**

4 **Q. HAS THE COMPANY INCLUDED COSTS ASSOCIATED WITH**
5 **THE GRID IMPROVEMENT PLAN?**

6 A. Yes. The Company has included grid improvement investments, placed in
7 service through December 31, 2018, in the revenue requirement
8 calculation shown in Smith Exhibit 1. The revenue requirement on these
9 investments are included in Line 11, Adjust for post test year additions to
10 plant in service, and Line 35, Amortize deferred cost balance related to SC
11 Grid, of my pro forma adjustments shown on Smith Exhibit 1, Page 3, and
12 described earlier in my testimony.

13 **Q. HAS THE COMPANY SOUGHT ANY ADDITIONAL**
14 **ACCOUNTING AND RECOVERY METHODS FOR ONGOING**
15 **GRID IMPROVEMENT PLAN COSTS?**

16 A. Yes. The Company's application requests that the Commission approve
17 the Company's Grid Improvement Plan as described by Witness Oliver,
18 along with associated Phase 1 and Phase 2 rates effective June 1, 2020 and
19 June 1, 2021. Such Phase 1 and Phase 2 proposed rates, provided in Pirro
20 Direct Exhibit 7, serve as "step-ups" in base rates for the revenue
21 requirement associated with those investments to be approved in this case.
22 Smith Exhibit 3 shows the calculation of the proposed Phase 1 and Phase
23 2 revenue requirements in more detail. For investments under the plan

1 placed in service from January 1, 2019 through December 31, 2019, the
2 company is proposing to capture the costs associated with these
3 investments in the Phase 1 rates, effective one year after the rates effective
4 date requested in this case, June 1, 2020. For investments under the plan
5 placed in service from January 1, 2020 through December 31, 2020, the
6 Company is proposing to capture the costs associated with these
7 investments in the Phase 2 rates, effective one year after the Phase 1 rates
8 on, June 1, 2021. As part of this request, the Company seeks approval to
9 defer costs associated with the incremental grid investments placed in
10 service after December 31, 2018, until those costs are included in base
11 rates, either through the Phase 1 or 2 rates or a subsequent general rate
12 case. The Phase 1 rates would also include amortization of deferred costs
13 associated with 2019 investments over a two-year period. The Phase 2
14 rates would include amortization of deferred costs associated with 2020
15 investments over a two-year period, and would also include a decrement to
16 remove what will then be the completed amortization for 2018
17 investments described in pro forma Line 35.

18 As to the deferral of cost incurred between rate effective dates, the
19 Company respectfully requests Commission approval to defer the financial
20 effects of the grid improvement work outlined by Witness Oliver,
21 including incremental O&M, depreciation expense and property tax, as
22 well as the carrying costs on the investment and on the deferred costs at
23 each utility's weighted average cost of capital, until the rates effective date

1 of the Phase 1 and 2 rates, effective June 1, 2020 and June 1, 2021,
2 respectively, and then afterward until the utility's next general rate case.

3 **Q. PLEASE EXPLAIN WHAT IS SHOWN IN SMITH EXHIBIT 3.**

4 A. Page 1 of Smith Exhibit 3 shows the revenue requirement for both the
5 South Carolina retail jurisdiction and by rate class for Phase 1 and Phase 2
6 on Lines 21 and 31, respectively. The revenue requirement increase in
7 total for South Carolina retail is \$16 million for Phase 1 and \$20 million
8 for Phase 2.

9 Page 2 shows the derivation of the Phase 1 jurisdictional revenue
10 requirement including the amortization of the deferred balance for 2019
11 investments.

12 Page 3 shows the details of the deferral calculation for the 2019
13 investments, including the plant in service, O&M and amortization
14 amounts that carry forward to Page 2.

15 Page 4 shows the derivation of the Phase 2 jurisdictional revenue
16 requirement including the amortization of the deferred balance for 2020
17 investments.

18 Page 5 shows the details of the deferral calculation for the 2020
19 investments, including the plant in service, O&M and amortization
20 amounts that carry forward to Page 4.

21 Page 6 shows the system capital spend and O&M for 2019 and 2020 that
22 corresponds to the Grid Improvement Plan described by Witness Oliver.

23 It also shows the allocations to South Carolina retail and the assumptions

1 for the lag between when capital is spent and when assets are placed in
2 service that was used for the revenue requirement calculation. The
3 numbers and assumptions on this page are the basis for the detailed
4 deferral calculations on Pages 3 and 5.

5 Page 7 shows the cost of capital requested in this case and used in the
6 calculation of the revenue requirements on Pages 2 through 5.

7 **Q. WOULD THE PARTIES HAVE A CHANCE TO REVIEW THE**
8 **WORK COMPLETED IN ADVANCE OF THE EFFECTIVE DATE**
9 **OF NEW RATES?**

10 A. Yes. The Company would be willing to file status reports to apprise
11 stakeholders of the progress as explained by Witness Oliver, as well as
12 through an ORS conducted audit.

13 **Q. IF APPROVED, WOULD THE COMPANY AGREE TO PUT**
14 **FORTH THE SAME INFORMATION FOR FUTURE YEARS?**

15 A. Yes. The Company envisions that the expenditures for years outside of
16 the Grid Improvement Plan (not established in this case) be brought back
17 before the Commission through a process like this one for similar
18 treatment.

1 **Q. PLEASE DESCRIBE THE ORS AUDIT REFERENCED ABOVE?**

2 A. We propose that the audit by ORS be conducted prior to the effective date
3 of the Phase 1 and 2 rates to be approved in this case. Accordingly, we
4 recommend the following parameters for an audit:

- 5 ▪ By March 1 of 2020 and 2021, the Company will file an updated
6 version of Smith Exhibit 3 showing the actual grid improvement
7 plan balances placed in service and incremental O&M by month
8 during the prior calendar year. The Company will certify that
9 these plant in service and O&M amounts are part of the Grid
10 Improvement Plan described by Witness Oliver, and are ready to
11 be audited. The Company will also include a narrative explaining
12 the work completed and the status of the plan.
- 13 ▪ The ORS should audit the plant in service balances and confirm
14 whether the Company has indeed placed in service the amounts
15 included in the updated Smith Exhibit 3 and spent the incremental
16 O&M and that these were investments under the Commission-
17 approved Grid Improvement Plan. The audit should be limited in
18 scope and not a recreation of the rate case (return on equity, cost
19 allocation, etc.) or an examination of the appropriateness of the
20 Grid Improvement Plan.
- 21 ▪ ORS should be given sixty (60) days from the date that the
22 Company files the updated Smith Exhibit 3 to complete its audit
23 and file a report with the Commission on May 1.
- 24 ▪ When ORS certifies to the Commission by May 1 that the
25 Company has met the conditions above, the Phase 1 and 2 rates
26 should be placed into effect for service on or after June 1.

27
28
29
30
31 **Q. WHAT HAPPENS IF THE ACTUAL INVESTMENTS RESULT IN**
32 **A REVENUE REQUIREMENT LESS THAN THE AMOUNT**
33 **SHOWN IN SMITH EXHIBIT 3?**

34 A. With its March 1, 2020 and March 1, 2021 certifications, the Company
35 will include an updated version of Smith Exhibit 3 with the actual
36 investments placed in service in the prior calendar year. If the update

1 results in a lower revenue requirement, the approved step-up rates will be
2 reduced to reflect the lower revenue requirement. If the update results in a
3 higher revenue requirement, the approved step-up rates will not change,
4 and the difference will be deferred to be considered in a future general rate
5 case. As a result, the Phase 1 and Phase 2 rate changes will be no greater
6 than the amounts approved in this case; however, they could be less.

7 **VII. CONCLUSION**

8 **Q. IN YOUR VIEW, ARE THE OPERATING EXPENSES AND RATE**
9 **BASE CALCULATED BY DE CAROLINAS IN THIS**
10 **PROCEEDING IN ACCORDANCE WITH THE PROVISIONS OF**
11 **S.C. CODE ANN. SECTIONS 58-27-820 AND 58-27-870 AND 26 S.C.**
12 **CODE REGS. 103-303 AND 103-823?**

13 **A.** Yes, they are. The Company generally experienced a level of ordinary
14 business expenses and rate base that was reasonable and necessary to
15 provide safe and reliable electric service to its customers for the twelve-
16 month period ended December 31, 2017. In order to meet the
17 requirements of S.C. Code Ann. Sections 58-27-820 and 58-27-870 and 26
18 S.C. Code Regs. 103-103 and 103-823, the actual operating expenses and
19 rate base levels for the Test Period were adjusted for known and
20 measurable changes as described above.

1 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT**
2 **TESTIMONY?**

3 **A. Yes.**

DUKE ENERGY CAROLINAS, LLC
OPERATING INCOME FROM ELECTRIC OPERATIONS
FOR THE TEST PERIOD ENDED DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	South Carolina Retail Excluding Greenwood Operations					
		Total Company Per Books (Col. 1)	(a) Per Books (Col. 2)	Adjustments (Col. 3)	Before Proposed Increase (Col. 4)	Revenue and Expenses from Proposed Increase (Col. 5)	After Proposed Increase (Col. 6)
1	Electric operating revenue	\$ 7,315,231	\$ 1,733,770	\$ (119,836)	\$ 1,613,934	\$ 230,807 (f)	\$ 1,844,741
	Electric operating expenses:						
	Operation and maintenance:						
2	Fuel used in electric generation	1,473,809	338,575	(27,433)	311,142		311,142
3	Purchased power	348,770	85,559	-	85,559		85,559
4	Other operation and maintenance expense	1,920,225	469,026	(26,581)	442,445		442,445
5	Depreciation and amortization	1,134,170	251,518	130,106	381,624		381,624
6	General taxes	277,321	85,270	7,907	93,177	1,023	94,200
7	Interest on customer deposits	8,500 (b)	1,023	-	1,023		1,023
8	Net income taxes	618,934	149,043	(107,480)	41,563	57,331	98,894
9	Amortization of investment tax credit	(5,298)	(1,265)	9	(1,255)		(1,255)
10	Total electric operating expenses	5,776,431	1,378,749	(23,471)	1,355,278	58,354	1,413,632
11	Operating income	\$ 1,538,800	\$ 355,021	\$ (96,365)	\$ 258,656	\$ 172,453	\$ 431,110
12	Add: customer growth			2,330	2,330	1,553	\$ 3,883
13	Net operating income for return	\$ 1,538,800	\$ 355,021	\$ (94,035)	\$ 260,986	\$ 174,007	\$ 434,993
14	Original cost rate base (e)	\$ 19,021,340	\$ 4,454,360	\$ 1,165,618 (d)	\$ 5,619,978		\$ 5,619,978
15	Rate of return on South Carolina retail rate base		7.97%		4.64%		7.74%

Notes: (a) Per Cost of Service
(b) Reclassifies interest on customer deposits to electric operating expense.
(c) From Page 3, Line 36
(d) From Page 4, Line 11.
(e) From Page 2.
(f) Proposed increase does not include impact of EDIT Rider year 1 reduction of (\$63M) as calculated in Smith Exhibit 2, page 2.

DUKE ENERGY CAROLINAS, LLC
CALCULATION OF ADDITIONAL REVENUE REQUIREMENT
FOR THE TEST PERIOD ENDED DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	December 31, 2017 Amount (Col. 1)	Pro forma Ratio (Col. 2)	South Carolina Retail Excluding Greenwood Operations					
				Before Proposed Increase			After Proposed Increase		
				Retail Rate Base (Col. 3)	Embedded Cost/ Return % (Col. 4)	Operating Income (Col. 5)	Retail Rate Base (Col. 6)	Embedded Cost/ Return % (Col. 7)	Operating Income (Col. 8)
1	Long-term debt	\$ 8,949,744	47.00%	\$ 2,641,390	4.63%	\$ 122,296	\$ 2,641,390	4.63%	\$ 122,296
2	Members' equity (a)	11,361,076	53.00%	2,978,588	4.66%	138,690	2,978,588	10.50%	312,752
3	Total	\$ 20,310,820	100.00%	\$ 5,619,978 (b)		\$ 260,986 (c)	\$ 5,619,978 (b)		435,048
4	Operating income before increase (Line 3, Column 5)								\$ 260,986
5	Customer growth								1,608
6	Operating income before increase								262,595
7	Additional operating income required (Line 3 minus Line 6)								172,453
8	Gross receipts taxes, utility assessment and income taxes								58,354
9	Additional revenue requirement								\$ 230,807

Notes: (a) The equivalent of common equity for a limited liability company.
(b) From Page 4, Line 11, Column 4.
(c) From Page 1, Line 13, Column 4.

DUKE ENERGY CAROLINAS, LLC
 DETAIL OF ACCOUNTING ADJUSTMENTS-SOUTH CAROLINA RETAIL
 FOR THE TEST PERIOD ENDED DECEMBER 31, 2017
 (Thousands of Dollars)

Line No.	Description	Electric Operating Revenue (Col. 1)	Fuel Used in Electric Generation (Col. 2)	Purchased Power (Col. 3)	Other O&M Expense (Col. 4)	Depreciation and Amortization (Col. 5)	General Taxes (Col. 6)	Income Taxes 24.9500% (Col. 7)	Amortization of ITC (Col. 8)
1	Annualize Retail revenues for current rates	\$ (46,477)	\$ -	\$ -	\$ -	\$ -	\$ (206)	\$ (11,545)	\$ -
2	Update fuel costs to approved rate and other fuel related adjustments	3,186	(27,433)	-	-	-	-	7,639	-
3	OPEN	-	-	-	-	-	-	-	-
4	Adjust the amount of CWIP included in rate base	-	-	-	-	-	-	-	-
5	Eliminate unbilled revenues	(63,683)	-	-	-	-	(174)	(15,845)	-
6	Adjust for costs recovered through non-fuel riders	(12,862)	-	-	(52,053)	-	-	9,778	-
7	Amortize deferred cost balance related to Carolinas West Control Center	-	-	-	-	1,781	-	(444)	-
8	Annualize Depreciation on year end plant balances	-	-	-	-	9,059	-	(2,260)	9
9	Annualize property taxes on year end plant balances	-	-	-	-	-	3,538	(883)	-
10	Adjust for new depreciation rates	-	-	-	-	13,304	-	(3,319)	-
11	Adjust for post test year additions to plant in service	-	-	-	-	17,583	3,219	(5,190)	-
12	Reflect 2017 Lee Combined Cycle addition to plant in service	-	-	-	723	3,947	810	(1,367)	-
13	Amortize deferred cost balance related to Lee Combined Cycle	-	-	-	-	7,154	-	(1,785)	-
14	Adjust for Lee Nuclear amortization	-	-	-	-	10,399	-	(2,594)	-
15	Adjust reserve for end of life nuclear costs	-	-	-	-	6,975	-	(1,740)	-
16	Adjust coal inventory	-	-	-	-	-	-	-	-
17	Adjust for approved regulatory assets and liabilities	-	-	-	(113)	(6,256)	-	1,589	-
18	Amortize deferred environmental costs	-	-	-	-	48,381	-	(12,071)	-
19	Amortize deferred cost balance related to SC AMI	-	-	-	-	12,626	-	(3,150)	-
20	Normalize for storm costs	-	-	-	1,261	-	-	(315)	-
21	Annualize O&M non-labor expenses	-	-	-	2,420	-	-	(604)	-

DUKE ENERGY CAROLINAS, LLC
 DETAIL OF ACCOUNTING ADJUSTMENTS-NORTH CAROLINA RETAIL
 FOR THE TEST PERIOD ENDED DECEMBER 31, 2017
 (Thousands of Dollars)

Line No.	Description	Electric Operating Revenue (Col. 1)	Fuel Used in Electric Generation (Col. 2)	Purchased Power (Col. 3)	Other O&M Expense (Col. 4)	Depreciation and Amortization (Col. 5)	General Taxes (Col. 6)	Income Taxes 24.9500% (Col. 7)	Amortization of ITC (Col. 8)
22	Normalize O&M labor expenses	-	-	-	10,502	-	729	(2,802)	-
23	Update benefits costs	-	-	-	(48)	-	-	12	-
24	Levelize nuclear refueling outage costs	-	-	-	(1,160)	-	-	289	-
25	Amortize rate case costs	-	-	-	770	-	-	(192)	-
26	Adjust aviation expenses	-	-	-	(773)	-	(8)	195	-
27	OPEN	-	-	-	-	-	-	-	-
28	Adjust for credit card fees	-	-	-	3,162	-	-	(789)	-
29	Adjust O&M for executive compensation	-	-	-	(948)	-	-	237	-
30	Adjust for Customer Connect Project	-	-	-	4,025	1,796	-	(1,452)	-
31	Adjust vegetation management expenses	-	-	-	5,650	-	-	(1,410)	-
32	Synchronize interest expense with end of period rate base	-	-	-	-	-	-	(4,526)	-
33	Adjust 1/8 O&M for accounting and pro-forma adjustments	-	-	-	-	-	-	-	-
34	Adjust for tax rate change	-	-	-	-	-	-	(52,097)	-
35	Adjust deferred cost balance related to SC Grid	-	-	-	-	3,356	-	(837)	-
36	Total adjustments	<u>\$ (119,836)</u>	<u>\$ (27,433)</u>	<u>\$ -</u>	<u>\$ (26,581)</u>	<u>\$ 130,106</u>	<u>\$ 7,907</u>	<u>\$ (107,480)</u>	<u>\$ 9</u>

Notes: (a) Adjustments to rate base shown on pages 4-4d.

DUKE ENERGY CAROLINAS, LLC
ORIGINAL COST RATE BASE-ELECTRIC OPERATIONS
DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	Page Reference	Total Company Per Books (Col. 1)	South Carolina Retail Excluding Greenwood Operations		
				Per Books (Col. 2)	Accounting Adjustments (Col. 3)	As Adjusted (Col. 4)
1	Electric plant in service	4a	\$ 38,056,480	\$ 9,087,106	\$ 621,058	\$ 9,708,163
2	Less: Accumulated depreciation and amortization	4b	<u>(15,274,676)</u>	<u>(3,675,901)</u>	<u>(41,001)</u>	<u>(3,716,903)</u>
3	Net electric plant		22,781,804	5,411,204	580,056	5,991,261
4	Add: Materials and supplies	4c	1,010,030	233,810	3,190	237,000
5	Cash working capital	4d	(1,697,173)	(401,737)	330,960	(70,777)
6	Plant held for future use		14,835	3,974	9,863	13,837
7	Nuclear Fuel	4a	527,459	130,305		130,305
8	Less: Accumulated deferred taxes		(3,428,625)	(877,452)	(74,301) (a)	(951,753)
9	Operating reserves		(343,589)	(82,616)	-	(82,616)
10	Construction work in progress		<u>156,599</u>	<u>36,872</u>	<u>315,850</u> (b)	<u>352,722</u>
11	Total		<u>\$ 19,021,340</u>	<u>\$ 4,454,360</u>	<u>\$ 1,165,618</u>	<u>\$ 5,619,978</u>

Notes: (a) Reflects adjustments of \$1,997 for removal of ADIT associated with fuel related riders, (\$889) additional ADIT associated with the Carolinas West Control Center, (\$1,443) additional ADIT associated with new depreciation rates, (\$19,202) additional ADIT related to Lee Combined Cycle plant addition, (\$28,539) additional ADIT associated with Lee Nuclear, (\$1,740) related to the change in end of life nuclear reserves in working capital, (\$48,284) additional ADIT associated with deferred environmental costs, (\$6,300) related to amortization of deferred AMI costs, (\$736) related to amortization of rate case costs, (\$896) associated with amortization of deferred customer connect costs, \$32,568 reduction in ADIT related to the change in federal tax rate, and (\$837) associated with the amortization of deferred grid costs.

(b) Adjustment to rate base to reflect the projected balance of CWIP as of December 31, 2018

DUKE ENERGY CAROLINAS, LLC
ELECTRIC PLANT IN SERVICE AT ORIGINAL COST
DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	Total Company Per Books	South Carolina Retail Excluding Greenwood Operations		
		(Col. 1)	Per Books (Col. 2)	Accounting Adjustments (Col. 3)	As Adjusted (Col. 4)
1	Production Plant	\$ 20,770,049	\$ 4,961,737	\$ 395,833	\$ 5,357,570
2	Transmission Plant	3,874,751	738,077	46,830	784,907
3	Distribution Plant	11,345,730	2,901,033	136,269	3,037,303
4	General Plant	1,122,460	269,162	42,125	311,288
5	Intangible Plant	<u>943,491</u>	<u>217,096</u>	-	<u>217,096</u>
6	Subtotal	38,056,480 (a)	9,087,106	621,058	9,708,163
7	Nuclear Fuel (Net)	<u>527,459</u>	<u>130,305</u>	-	<u>130,305</u>
8	Total electric plant in service	<u>\$ 38,583,940</u>	<u>\$ 9,217,411</u>	<u>\$ 621,058 (b)</u>	<u>\$ 9,838,468</u>

Notes: (a) Excludes asset retirement obligations, electric plant held for future use, and electric plant acquisition adjustments totaling \$213,146 thousand.

(b) Reflects certain plant in service additions through December 2018.

DUKE ENERGY CAROLINAS, LLC
ACCUMULATED DEPRECIATION AND AMORTIZATION - ELECTRIC PLANT IN SERVICE
DECEMBER 31, 2017
(Thousands of Dollars)

No.	Description	Total Company Per Books	South Carolina Retail Excluding Greenwood Operations		
		(Col. 1)	Per Books (Col. 2)	Accounting Adjustments (Col. 3) (b)	As Adjusted (Col. 4)
1	Production Reserve	\$ (8,267,617)	\$ (1,993,693)	\$ (31,335)	\$ (2,025,029)
2	Transmission Reserve	(1,403,966)	(268,419)	(1,170)	(269,589)
3	Distribution Reserve	(4,657,540)	(1,191,005)	(7,081)	(1,198,086)
4	General Reserve	(401,403)	(95,522)	(1,415)	(96,937)
5	Intangible Reserve	<u>(544,150)</u>	<u>(127,262)</u>	-	<u>(127,262)</u>
6	Total	<u>\$ (15,274,676) (a)</u>	<u>\$ (3,675,901)</u>	<u>\$ (41,001)</u>	<u>\$ (3,716,903)</u>
7	The annual composite rates (calculated based on 2017 balances) for computing depreciation are shown below:				
		<u>Plant/Other</u>			
8	Steam production plant	3.41%			
9	Nuclear production plant	3.39%			
10	Hydro production plant	1.86%			
11	Combustion turbine production plant	3.10%			
12	Transmission plant	2.05%			
13	Distribution plant	2.19%			
14	General plant	5.27%			
15	Intangible plant	20.00%			

Notes: (a) Excludes accumulated amortization of electric plant acquisition adjustment and accumulated depreciation related to asset retirement obligations totaling \$(104,559) thousand.

(b) Reflects (\$9,059) for the impact of annualized depreciation, (\$21,530) associated with post yest year plant additions, (\$10,412) related to new depreciation rates

DUKE ENERGY CAROLINAS, LLC
MATERIALS AND SUPPLIES
DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	Total Company Per Books (Col. 1)	South Carolina Retail Excluding Greenwood Operations		
			Per Books (Col. 2)	Accounting Adjustments (Col. 3)	As Adjusted (Col. 4)
	Fuel Stock:				
1	Coal	\$ 193,823			
2	Oil	<u>35,478</u>			
3	Total fuel stock	229,301	56,647	\$ 2,362 (a)	59,009
4	Other electric materials and supplies and stores clearing	<u>780,728</u>	<u>177,163</u>	<u>828 (b)</u>	<u>177,991</u>
5	Total Materials and Supplies	<u>\$ 1,010,030</u>	<u>\$ 233,810</u>	<u>\$ 3,190</u>	<u>\$ 237,000</u>

Notes: (a) Adjusts coal inventory to reflect the targeted inventory level of 40 days at full load.

(b) Adjusts materials and supplies to expected level of Lee Combined Cycle inventory to be placed in service in 2018.

DUKE ENERGY CAROLINAS, LLC
WORKING CAPITAL INVESTMENT
DECEMBER 31, 2017
(Thousands of Dollars)

Line No.	Description	Total Company Per Books	South Carolina Retail Excluding Greenwood Operations		
		(Col. 1)	Per Books (Col. 2)	Accounting Adjustments (Col. 3)	As Adjusted (Col. 4)
1	12 Months O&M (excluding purchased power & nuclear fuel)	\$ 3,085,907	\$ 731,480	\$ (54,016) (a)	\$ 677,464
2	Working Cash (1/8 of O&M on Line 1)	385,738	91,435	(6,752) (b)	84,683
3	Less: average taxes accrued	(193,735)	(79,853)	-	(79,853)
4	Subtotal: Investor funds for operations	192,004	11,583	(6,752)	4,831
5	Required bank balance	300	70	-	70
6	Unamortized Debt	113,935	26,437	-	26,437
7	Customer Deposits	(120,758)	(29,541)	-	(29,541)
8	Prepayments	15,298	3,634	-	3,634
9	Other	(1,897,952)	(413,919)	337,712 (c)	(76,207)
10	Subtotal: Other investor funds	(1,889,177)	(413,319)	337,712	(75,607)
11	Total working capital investment	\$ (1,697,173)	\$ (401,737)	\$ 330,960	\$ (70,777)

Notes: (a) Page 3, Line 36, Columns 2, 3, and 4

(b) Reflects a decrease in operating funds based on 1/8 of O&M on line 1

(c) Reflects a decrease of (\$35,976) for costs recorded in connection with fuel riders, an increase of \$3,563 for the deferred cost balance of Carolinas West Control Center, \$5,784 related to new depreciation rates, an increase of \$14,309 for the deferred costs balance of Lee Combined Cycle, an increase of \$114,386 for the establishment of a regulatory asset at June 1, 2018 for Lee Nuclear, an increase of \$6,975 related to end of life nuclear reserves, an increase of \$193,522 to the regulatory asset for deferred environmental costs, \$25,252 for the addition of the deferred AMI balance to rate base, \$2,949 for the addition of deferred rate case costs to rate base, \$3,592 for the addition of deferred customer connect costs to rate base, and an increase of \$3,356 for the addition of deferred grid costs.

Duke Energy Carolinas, LLC
DOCKET 2018-319-E
SMITH EXHIBIT 2
FOR THE TEST PERIOD ENDED December 31, 2017
SOUTH CAROLINA RETAIL
Excess Deferred Income Tax Rider Calculation
(Dollars in thousands)

	Federal EDIT - Protected SC Retail	Federal EDIT - Unprotected, PP&E related SC Retail	Federal EDIT - Unprotecte d, non PP&E related SC Retail	Deferred Revenue, DERP Solar Rebate SC Retail	NC EDIT SC Retail	Total SC Retail
	(A)	(B)	(C)	(D)	(E)	(F)
1 Regulatory liability including gross up as of 12/31/2017	[1] \$(409,903)	\$ (269,477)	\$ (57,927)	\$ -	(83,686)	(820,993)
2 Estimated transition of Protected to Unprotected regulatory liability during 2018	[1] \$ 12,707		\$ (12,707)			-
3 DERP deferral balance for solar rebate as of 9/30/2018	[1]			\$ 40,119		40,119
4 Projected deferred revenue for federal tax rate change as of 12/31/2018	[2]			\$ (70,059)		(70,059)
5 Regulatory liability for federal tax change including gross up for Year 1 rider calculation (Sum of L1 to L4)						
	\$(397,196)	\$ (269,477)	\$ (70,634)	\$ (29,940)	\$ (83,686)	(850,933)
6 Allocation to SC Retail excluding Greenwood	[3] 99.68%	99.68%	99.68%	99.68%	99.68%	99.68%
7 Regulatory liability for federal tax change including gross up for SC Retail excluding Greenwood (L5 x L6))						
	(395,912)	(268,607)	(70,406)	(29,843)	(83,415)	(848,184)
8 Annual amortization percentage	3.10%	5.00%	20.00%	20.00%	20.00%	7.36%
9 Annual amortization amount (L7 x L8)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)
10 Years of rider amortization	32.26	20	5	5	5	

[1] Excess deferred tax liability (EDIT) as of 12/31/2017 by jurisdiction, and forecast 2018 transition between categories based on Tax analysis of ADIT.

EDIT related to the federal tax changes booked to the 0254036 account is included in other Working Capital in the per books cost of service, net of offsetting ADIT in the 190 account.

NC EDIT liability booked to the 0253600 account, was included in Other Working Capital in the per books COSS.

DERP Solar Rebates are deferred to the 0182494 account

[2] Smith Exhibit 2, Page 3, Line 3. Deferred revenues in the 0229010 account forecast as of 12/31/2018.

[3] Allocation - SCRGW - NETPLT w Nfuel

Duke Energy Carolinas, LLC
DOCKET 2018-319-E
SMITH EXHIBIT 2
FOR THE TEST PERIOD ENDED December 31, 2017
SOUTH CAROLINA RETAIL
Excess Deferred Income Tax Rider Calculation
(Dollars in thousands)

			After Tax Weighted Average Cost of Capital (WACC)
<u>Cost of Capital per Smith Exhibit 1</u>	Ratio	Rate	
Debt	47.00%	4.79%	1.69%
Equity	53.00%	10.75%	5.70%
			7.39%
Statutory Tax Rate			24.95%
Retention factor for SC license tax, PSC Utility Assessment Fee			99.56%

Annual Rider Calculation

Annual Rider Calculation															
Amortization - From Page 1, L9										EDIT Balance in Base Rates, Page 1, L1 x L6		Change in Regulatory Liability for Rider Return	Return for Rider (L) = (K) x After Tax WACC	Rider Revenues (M) = (G) + (L)	Rider Revenues incl. SC license Tax, PSC Utility Assessment Fee (N) = (M) / Retention Factor
Year		Beginning Balance, Page 1, L7 (A)	Federal EDIT - Protected (B)	Federal EDIT - Unprotected, PP&E related (C)	Federal EDIT - Unprotected, non PP&E related (D)	Deferred Revenue, DERP Solar Rebate (E)	NC EDIT (F)	Total Amortization (G) = (B)+(C)+(D)+[E]+[F]	Ending Balance before Return (H) = (A) - (G)	Average of Beginning and Ending Balance (I) = ((A) + (H)) /2	(J)	(K) = (I) - (J)			
Jun 19- May 20	1	(848,184)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)	(785,747)	(\$816,966)	(818,340)	\$1,375	\$102	(62,335)	(62,612)
Jun 20- May 21	2	(785,747)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)	(723,311)	(\$754,529)	(818,340)	\$63,811	\$4,716	(57,721)	(57,978) [1]
Jun 21- May 22	3	(723,311)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)	(660,874)	(\$692,092)	(818,340)	\$126,248	\$9,330	(53,107)	(53,343) [1]
Jun 22- May 23	4	(660,874)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)	(598,437)	(\$629,656)	(818,340)	\$188,685	\$13,944	(48,493)	(48,709) [1]
Jun 23- May 24	5	(598,437)	(12,273)	(13,430)	(14,081)	(5,969)	(16,683)	(62,437)	(536,001)	(\$567,219)	(818,340)	\$251,121	\$18,558	(43,879)	(44,074) [1]

[1] The rider amounts for years 2 through 5 are shown for illustrative purposes only. Actual rider amounts will be filed each year with updates discussed in my testimony by March 31 for Commission approval.

**Duke Energy Carolinas, LLC
DOCKET 2018-319-E
SMITH EXHIBIT 2
FOR THE TEST PERIOD ENDED December 31, 2017
SOUTH CAROLINA RETAIL**

Page 3 of 3

(Dollars)

Projected Deferred Revenue for Federal Tax Rate Change in account 0229010

SC Retail

1	Deferrals booked as of 9/30/2018	(\$52,601,488)
2	Forecast deferrals for October - December 2018	(\$17,457,309)
3	Projected Deferred Revenue for Federal Tax Rate Change as of 12/31/2018 (L1 + L2)	<u>(\$70,058,796)</u>

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN
1 SUMMER CP DEMAND ALLOCATION

Smith Exhibit 3
Page 1

Line No.	Description	TOT_RETAIL SOUTH CAROLINA Retail_1	TOT_RETAIL Excl GW SOUTH CAROLINA Retail_1	Residential SCRS-1 Retail_2	Residential SCRT Retail_3	Residential SCRE Retail_4	SCSGS Retail_5	SCLGS Retail_6
1	DISTRIBUTION PLANT IN SERVICE, Excluding 371, 373, and Extra Facilities		2,519,705	937,844	1,212	846,644	260,063	76,417
2	Distribution Customer Class Allocations for Projections		99.58%	37.06%	0.05%	33.46%	10.28%	3.02%
3								
4	Transmission Peak		4,152,267	962,385	1,714	642,077	351,024	279,400
5	Transmission Peak Percentage		99.71%	23.11%	0.04%	15.42%	8.43%	6.71%
6								
7								
8	Distribution Intangible Plant		177,564	61,298	74	53,257	17,580	3,335
9	Distribution Intangible Plant Allocation		99.60%	34.38%	0.04%	29.87%	9.86%	1.87%
10								
11	Phase 1 Rate Step up							
12	Distribution Revenue Requirement	\$ 6,431,932	\$6,404,651	2,383,835.85	3,079.52	2,152,022.49	661,034.93	194,239.94
13	Transmission Revenue Requirement	\$3,408,108	\$3,398,058	787,579.51	1,402.67	525,451.55	287,264.77	228,650.40
14	General Intangible Plant (Communications / Enterprise Systems)	\$6,351,280	\$6,325,676	2,183,716.73	2,652.03	1,897,283.49	626,295.56	118,795.81
15	Total (Sum L12 through L14)	\$16,191,320	\$16,128,385	\$5,355,132	\$7,134	\$4,574,758	\$1,574,595	\$541,686
16								
17	Customer % for Distribution Investments based on Current Investments			59.46%	50.10%	53.34%	61.78%	6.14%
18								
19	Customer Related Portion (L12 * L17)		\$ 3,031,990	1,417,336.54	1,542.70	1,147,863.24	408,383.87	11,934.55
20	Non-Customer Related Portion (L15 - L19)		\$ 13,096,396	3,937,795.55	5,591.52	3,426,894.29	1,166,211.39	529,751.60
21	Total Revenue Requirement (Sum L19 through L20)		\$ 16,128,385	\$ 5,355,132	\$ 7,134	\$ 4,574,758	\$ 1,574,595	\$ 541,686



	Phase 2 Rate Step up							
22	Distribution Revenue Requirement	\$ 9,162,535	\$9,123,672	3,395,866.29	4,386.90	3,065,639.20	941,669.80	276,702.30
23	Transmission Revenue Requirement	\$4,321,987	\$4,309,243	998,767.80	1,778.80	666,350.61	364,294.40	289,962.67
24	General Intangible Plant (Communications / Enterprise Systems)	\$6,687,743	\$6,660,782	2,299,400.19	2,792.52	1,997,793.01	659,473.87	125,089.08
25	Total (Sum L22 through L24)	\$20,172,265	\$20,093,697	\$6,694,034	\$8,958	\$5,729,783	\$1,965,438	\$691,754
26								
27	Customer % for Distribution Investments based on Current Investments			59.46%	50.10%	53.34%	61.78%	6.14%
28								
29	Customer Related Portion (L22 * L27)		\$ 4,319,187	2,019,050.68	2,197.64	1,635,175.54	581,758.61	17,001.22
30	Non-Customer Related Portion (L25 - L29)		\$ 15,774,511	4,674,983.60	6,760.58	4,094,607.28	1,383,679.46	674,752.82
31	Total Revenue Requirement (Sum L29 through L30)		\$ 20,093,697	\$ 6,694,034	\$ 8,958	\$ 5,729,783	\$ 1,965,438	\$ 691,754

Lines 1 through 9 from the Cost of service study.
Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 tthrough 72.
Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 tthrough 84.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN
1 SUMMER CP DEMAND ALLOCATION

Smith Exhibit 3
Page 1 Cont.

Line No.	Description	Lighting SCOL Retail_7	Lighting SCNL Retail_8	Lighting SCGL Retail_9	Lighting SCPL Retail_10	SCTS Retail_11	SCI Retail_12	SCOPT-G Retail_13	SCOPT-I Retail_14
1	DISTRIBUTION PLANT IN SERVICE, Excluding 371, 373, and Extra Facilities	10,777	1	610	4,666	2,595	45,357	119,463	214,056
2	Distribution Customer Class Allocations for Projections	0.43%	0.00%	0.02%	0.18%	0.10%	1.79%	4.72%	8.46%
3									
4	Transmission Peak	0	0	0	0	276	172,093	543,704	1,199,594
5	Transmission Peak Percentage	0.00%	0.00%	0.00%	0.00%	0.01%	4.13%	13.06%	28.80%
6									
7									
8	Distribution Intangible Plant	22,397	0	166	2,031	268	2,003	5,571	9,582
9	Distribution Intangible Plant Allocation	12.56%	0.00%	0.09%	1.14%	0.15%	1.12%	3.12%	5.37%
10									
11	Phase 1 Rate Step up								
12	Distribution Revenue Requirement	27,392.53	1.53	1,550.59	11,859.34	6,595.24	115,290.87	303,654.13	544,093.64
13	Transmission Revenue Requirement	-	-	-	-	225.87	140,834.41	444,946.80	981,702.39
14	General Intangible Plant (Communications / Enterprise Systems)	797,900.56	5.60	5,908.82	72,367.83	9,562.64	71,356.41	198,471.34	341,359.64
15	Total (Sum L12 through L14)	\$825,293	\$7	\$7,459	\$84,227	\$16,384	\$327,482	\$947,072	\$1,867,156
16									
17	Customer % for Distribution Investments based on Current Investments	-0.38%	66.62%	74.18%	48.92%	97.79%	4.41%	7.94%	0.45%
18									
19	Customer Related Portion (L12 * L17)	(104.85)	1.02	1,150.17	5,801.45	6,449.16	5,085.49	24,097.40	2,449.01
20	Non-Customer Related Portion (L15 - L19)	825,397.94	6.11	6,309.24	78,425.72	9,934.58	322,396.19	922,974.87	1,864,706.66
21	Total Revenue Requirement (Sum L19 through L20)	\$ 825,293	\$ 7	\$ 7,459	\$ 84,227	\$ 16,384	\$ 327,482	\$ 947,072	\$ 1,867,156



	Phase 2 Rate Step up								
22	Distribution Revenue Requirement	39,021.72	2.18	2,208.87	16,894.09	9,395.17	164,236.29	432,567.04	775,082.41
23	Transmission Revenue Requirement	-	-	-	-	286.43	178,598.95	564,258.63	1,244,944.44
24	General Intangible Plant (Communications / Enterprise Systems)	840,169.73	5.89	6,221.85	76,201.55	10,069.23	75,136.56	208,985.46	359,443.34
25	Total (Sum L22 through L24)	\$879,191	\$8	\$8,431	\$93,096	\$19,751	\$417,972	\$1,205,811	\$2,379,470
26									
27	Customer % for Distribution Investments based on Current Investments	-0.38%	66.62%	74.18%	48.92%	97.79%	4.41%	7.94%	0.45%
28									
29	Customer Related Portion (L22 * L27)	(149.36)	1.45	1,638.46	8,264.39	9,187.08	7,244.48	34,327.68	3,488.71
30	Non-Customer Related Portion (L25 - L29)	879,340.81	6.62	6,792.26	84,831.25	10,563.75	410,727.31	1,171,483.46	2,375,981.49
31	Total Revenue Requirement (Sum L29 through L30)	\$ 879,191	\$ 8	\$ 8,431	\$ 93,096	\$ 19,751	\$ 417,972	\$ 1,205,811	\$ 2,379,470

Lines 1 through 9 from the Cost of service study.
Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 tthrough 72.
Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 tthrough 84.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN
1 SUMMER CP DEMAND ALLOCATION

Smith Exhibit 3
Page 1 Cont.

Line No.	Description	SCOPT Retail_15	Greenwood Retail_16	SC Retail (Incl GW) Retail_35
1	DISTRIBUTION PLANT IN SERVICE, Excluding 371, 373, and Extra Facilities	333,519	10,733	2,530,438
2	Distribution Customer Class Allocations for Projections	13.18%	0.42%	100.00%
3				
4	Transmission Peak	1,743,298	12,280	4,164,547
5	Transmission Peak Percentage	41.86%	0.29%	100.00%
6				
7				
8	Distribution Intangible Plant	15,153	719	178,283
9	Distribution Intangible Plant Allocation	8.50%	0.40%	100.00%
10				
11	Phase 1 Rate Step up			
12	Distribution Revenue Requirement	847,747.77	27,281.27	6,431,931.86
13	Transmission Revenue Requirement	1,426,649.19	10,049.49	3,408,107.86
14	General Intangible Plant (Communications / Enterprise Systems)	539,830.99	25,604.00	6,351,280.47
15	Total (Sum L12 through L14)	\$2,814,228	\$62,935	\$16,191,320
16				
17	Customer % for Distribution Investments based on Current Investments	3.13%	47.77%	47.34%
18				
19	Customer Related Portion (L12 * L17)	26,546.41	13,031.77	3,045,021.53
20	Non-Customer Related Portion (L15 - L19)	2,787,681.54	49,903.00	13,146,298.66
21	Total Revenue Requirement (Sum L19 through L20)	\$ 2,814,228	\$ 62,935	\$ 16,191,320



	Phase 2 Rate Step up			
22	Distribution Revenue Requirement	1,207,649.46	38,863.23	9,162,535.49
23	Transmission Revenue Requirement	1,809,203.08	12,744.24	4,321,986.97
24	General Intangible Plant (Communications / Enterprise Systems)	568,428.80	26,960.39	6,687,742.67
25	Total (Sum L22 through L24)	\$3,585,281	\$78,568	\$20,172,265
26				
27	Customer % for Distribution Investments based on Current Investments	3.13%	47.77%	47.34%
28				
29	Customer Related Portion (L22 * L27)	37,816.39	18,564.25	4,337,750.84
30	Non-Customer Related Portion (L25 - L29)	3,547,464.94	60,003.61	15,834,514.29
31	Total Revenue Requirement (Sum L29 through L30)	\$ 3,585,281	\$ 78,568	\$ 20,172,265

Lines 1 through 9 from the Cost of service study.
Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 tthrough 72.
Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 tthrough 84.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
REVENUE REQUIREMENT
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Page 2

Line No.	Description	Total SC Retail	Depreciation Rate	Depreciation
1	<u>Impact to Rate Base Line Items</u>			
2	<u>Additions to gross electric plant:</u>			
3	Distribution [1]	\$ 32,781,330	2.15%	\$ 704,799
4	Transmission [1]	19,018,777	2.03%	386,081
5	General - Communication & Advanced DMS [1]	11,713,263	10.00%	1,171,326
6	General - Enterprise Applications [1]	4,690,135	20.00%	938,027
7	Impact to electric plant in service (Sum L3 through L6)	<u>\$ 68,203,505</u>		<u>\$ 3,200,233</u>
8				
9	<u>Accumulated depreciation & amortization:</u>			
10	Distribution accumulated depreciation (-L3)	\$ (704,799)		
11	Transmission accumulated depreciation (-L4)	(386,081)		
12	General Plant accumulated depreciation (-Sum L5 through L6)	(2,109,353)		
13	Impact to accumulated depreciation (Sum L10 through L12)	<u>\$ (3,200,233)</u>		
14				
15	<u>Net electric plant:</u>			
16	Distribution (L3 + L10)	\$ 32,076,531		
17	Transmission (L4 + L11)	18,632,696		
18	General Plant (L5 + L6 + L12)	14,294,045		
19	Impact to net plant (Sum L16 through L18)	<u>\$ 65,003,272</u>		
20				
21	Cost of Capital [2]	9.63%		
22				
23	<u>Rate Base Revenue Requirement</u>			
24	Distribution (L16 * L21)	\$ 3,090,200		
25	Transmission (L17 * L21)	1,795,043		
26	General Plant (L18 * L21)	1,377,065		
27	Impact to net plant (Sum L24 through L26)	<u>\$ 6,262,308</u>		
28				
29	<u>Impact to Income Statement Line Items</u>			
30	<u>Depreciation and amortization:</u>			
31	Distribution depreciation expense (L3)	\$ 704,799		
32	Transmission depreciation expense (L4)	386,081		
33	General Plant depreciation expense (Sum L5 through L6)	2,109,353		
34	Impact to deprec. and amortization (Sum L31 through L33)	<u>\$ 3,200,233</u>		
35				

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
REVENUE REQUIREMENT
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Page 2 Cont.

Line No.	Description	Total SC Retail
36	<u>Amortization of 2019 deferral:</u>	
37	Distribution depreciation expense [3]	\$ 2,283,081
38	Transmission depreciation expense [3]	1,112,560
39	General Plant depreciation expense [3]	2,750,301
40	Impact to deprec. and amortization (Sum L37 through L39)	<u>\$ 6,145,942</u>
41		
42	<u>General taxes:</u>	
43	Property tax rate - South Carolina	1.0343%
44	Property tax rate - Combined North Carolina and South Carolina	0.5641%
45		
46	Distribution property tax expense (L3 * L43)	\$ 339,048
47	Transmission property tax expense (L4 * L44)	107,277
48	General Plant property tax expense (Sum(L5 through L6) * L44)	92,525
49	Impact to general taxes (Sum L46 through L48)	<u>\$ 538,850</u>
50		
51	<u>Income Taxes</u>	24.95%
52	Distribution (L31 + L37 + L46) * -L51	\$ (830,068)
53	Transmission (L32 + L38 + L47) * -L51	(400,677)
54	General Plant (L33 + L39 + L48) * -L51	(1,235,569)
55	Total income taxes (Sum L52 through L54)	<u>\$ (2,466,314)</u>
56		
57	<u>Total Income statement impact</u>	
58	Distribution (L31 + L37 + L46 + L52)	\$ 2,496,859
59	Transmission (L32 + L38 + L47 + L53)	1,205,242
60	General Plant (L33 + L39 + L48 + L54)	3,716,611
61	Total income statement impact (Sum L58 through L60)	<u>\$ 7,418,711</u>
62		
63	<u>Income Statement Requirement</u>	74.72% [4]
64	Distribution (L58 / L63)	\$ 3,341,732
65	Transmission (L59 / L63)	1,613,065
66	General Plant (L60 / L63)	4,974,216
67	Total income statement Requirement (Sum L64 through L66)	<u>\$ 9,929,012</u>
68		
69	<u>Total Revenue Requirement for Plant additions and Deferral</u>	
70	Distribution (L24 + L64)	\$ 6,431,932
71	Transmission (L25 + L65)	3,408,108
72	General Plant (L26 + L66)	6,351,280
73	Total Revenue Requirement (Sum L70 through L72)	<u>\$ 16,191,320</u>

[1] Smith Exhibit 3 page 3, lines 7-11 May, 2020.

[2] Smith Exhibit 3 page 7, line 5.

[3] Smith Exhibit 3 page 3, lines 114-116

[4] Smith Exhibit 3 page 7, line 24.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

Calculation of South Carolina Retail Costs		2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	
Line No.	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Plant-in-Service: [1]												
2	Distribution to Plant in Service	2,858,924	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219
3	Transmission to Plant in Service	636,857	934,422	716,023	2,163,617	2,149,517	2,126,163	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363
4	Advanced DMS Plant in Service	-	-	-	-	-	-	-	-	-	-	-	3,518,060
5	Communications Plant in Service	1,359,185	637,923	1,310,188	543,101	543,101	543,101	543,101	543,101	543,101	543,101	543,101	543,101
6	Enterprise Applications Plant in Service	-	-	-	-	-	-	-	-	-	-	-	4,690,135
7	Cumulative Distribution investment (L2)	2,858,924	5,579,142	8,299,361	11,019,580	13,739,799	16,460,017	19,180,236	21,900,455	24,620,673	27,340,892	30,061,111	32,781,330
8	Cumulative Transmission investment (L3)	636,857	1,571,279	2,287,302	4,450,919	6,600,436	8,726,599	10,441,962	12,157,325	13,872,688	15,588,051	17,303,414	19,018,777
9	Cumulative Advanced DMS investment (L4)	-	-	-	-	-	-	-	-	-	-	-	3,518,060
10	Cumulative Communication investment (L5)	1,359,185	1,997,108	3,307,296	3,850,397	4,393,497	4,936,598	5,479,699	6,022,800	6,565,901	7,109,001	7,652,102	8,195,203
11	Cumulative Enterprise Application investment (L6)	-	-	-	-	-	-	-	-	-	-	-	4,690,135
12													
13	Accumulated depreciation & amortization:												
14	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%
15	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
16	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
17	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
18	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
19	Distribution depreciation expense (L7 * L14)	-	5,122	9,996	14,870	19,743	24,617	29,491	34,365	39,238	44,112	48,986	53,859
20	Transmission depreciation expense (L8 * L15)	-	1,077	2,658	3,869	7,529	11,166	14,763	17,664	20,566	23,468	26,370	29,272
21	Advanced DMS depreciation expense (L9 * L16)	-	-	-	-	-	-	-	-	-	-	-	-
22	Communication depreciation expense (L10 * L17)	-	11,327	16,643	27,561	32,087	36,612	41,138	45,664	50,190	54,716	59,242	63,768
23	Enterprise Application depreciation expense (L11 * L18)	-	-	-	-	-	-	-	-	-	-	-	-
24	Distribution accumulated depreciation	-	(5,122)	(15,118)	(29,988)	(49,731)	(74,348)	(103,839)	(138,204)	(177,442)	(221,554)	(270,540)	(324,400)
25	Transmission accumulated depreciation	-	(1,077)	(3,735)	(7,605)	(15,134)	(26,300)	(41,062)	(58,727)	(79,293)	(102,761)	(129,131)	(158,402)
26	Advanced DMS accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
27	Communication accumulated depreciation	-	(11,327)	(27,969)	(55,530)	(87,617)	(124,229)	(165,367)	(211,032)	(261,222)	(315,937)	(375,179)	(438,947)
28	Enterprise Application accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
29													
30	Net electric plant												
31	Distribution (L7 + L24)	2,858,924	5,574,020	8,284,243	10,989,592	13,690,067	16,385,669	19,076,397	21,762,251	24,443,231	27,119,338	29,790,571	32,456,930
32	Transmission (L8 + L25)	636,857	1,570,202	2,283,566	4,443,314	6,585,301	8,700,299	10,400,899	12,098,598	13,793,395	15,485,290	17,174,284	18,860,375
33	Advanced DMS (L9 + L26)	-	-	-	-	-	-	-	-	-	-	-	3,518,060
34	Communication (L10 + L27)	1,359,185	1,985,781	3,279,327	3,794,867	4,305,881	4,812,369	5,314,332	5,811,768	6,304,679	6,793,064	7,276,923	7,756,256
35	Enterprise Application (L11 + L28)	-	-	-	-	-	-	-	-	-	-	-	4,690,135
36	Average rate base - Distribution	1,429,462	4,216,472	6,929,132	9,636,917	12,339,830	15,037,868	17,731,033	20,419,324	23,102,741	25,781,285	28,454,954	31,123,751
37	Average rate base - Transmission	318,428	1,103,529	1,926,884	3,363,440	5,514,308	7,642,800	9,550,599	11,249,749	12,945,997	14,639,343	16,329,787	18,017,329
38	Average rate base - Advanced DMS	-	-	-	-	-	-	-	-	-	-	-	1,759,030
39	Average rate base - Communication	679,592	1,672,483	2,632,554	3,537,097	4,050,374	4,559,125	5,063,350	5,563,050	6,058,224	6,548,872	7,034,994	7,516,590
40	Average rate base - Enterprise Application	-	-	-	-	-	-	-	-	-	-	-	2,345,068

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

Line	Calculation of South Carolina Retail Costs	2019 Jan	2019 Feb	2019 Mar	2019 Apr	2019 May	2019 Jun	2019 Jul	2019 Aug	2019 Sep	2019 Oct	2019 Nov	2019 Dec
41													
42	Return on rate base:												
43	Long-term debt [4]	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%
44	Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%
45	Distribution Debt return on rate base (L36 x L43 / 12)	2,592	7,646	12,565	17,476	22,377	27,270	32,154	37,029	41,895	46,752	51,601	56,440
46	Transmission Debt return on rate base (L37 x L43 / 12)	577	2,001	3,494	6,099	10,000	13,860	17,319	20,400	23,476	26,547	29,613	32,673
47	Advance DMS Debt return on rate base (L38 x L43 / 12)	-	-	-	-	-	-	-	-	-	-	-	3,190
48	Communication Debt return on rate base (L39 x L43 / 12)	1,232	3,033	4,774	6,414	7,345	8,268	9,182	10,088	10,986	11,876	12,757	13,631
49	Enterprise Application Debt return on rate base (L40 x L43 / 12)	-	-	-	-	-	-	-	-	-	-	-	4,253
50	Distribution Equity return on rate base (L36 x L44 / 12)	8,833	26,054	42,817	59,549	76,250	92,922	109,564	126,175	142,757	159,308	175,829	192,320
51	Transmission Equity return on rate base (L37 x L44 / 12)	1,968	6,819	11,907	20,783	34,074	47,226	59,015	69,515	79,996	90,460	100,905	111,333
52	Advance DMS Equity return on rate base (L38 x L44 / 12)	-	-	-	-	-	-	-	-	-	-	-	10,869
53	Communication Equity return on rate base (L39 x L44 / 12)	4,199	10,335	16,267	21,856	25,028	28,172	31,288	34,375	37,435	40,467	43,471	46,447
54	Enterprise Application Equity return on rate base (L40 x L44 / 12)	-	-	-	-	-	-	-	-	-	-	-	14,491
55													
56	Other operation and maintenance expense: [3]												
57	Distribution O&M	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684
58	Transmission O&M	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506
59	General Plant O&M	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240
60	Total O&M	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430
61													
62	Depreciation and amortization:												
63	Distribution depreciation expense (L19)	-	5,122	9,996	14,870	19,743	24,617	29,491	34,365	39,238	44,112	48,986	53,859
64	Transmission depreciation expense (L20)	-	1,077	2,658	3,869	7,529	11,166	14,763	17,664	20,566	23,468	26,370	29,272
65	General plant depreciation expense (sum (L21:L23))	-	11,327	16,643	27,561	32,087	36,612	41,138	45,664	50,190	54,716	59,242	63,768
66	Total Depreciation	-	17,526	29,297	46,300	59,360	72,395	85,392	97,693	109,994	122,296	134,597	146,899
67													
68	General taxes:												
69	Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
70	Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%
71													
72	Distribution property tax expense												
73	Transmission property tax expense												
74	General Plant property tax expense												
75	Impact to general taxes (Sum (L72:L74))	-	-	-	-	-	-	-	-	-	-	-	-
76													
77	Total impact to operating income:												
78	Distribution (L57 + L63 + L72)	63,684	68,806	73,680	78,554	83,427	88,301	93,175	98,048	102,922	107,796	112,670	117,543
79	Transmission (L58 + L64 + L73)	17,506	18,584	20,164	21,376	25,036	28,672	32,269	35,171	38,072	40,974	43,876	46,778
80	General Plant (L59 + L65 + L74)	232,240	243,566	248,883	259,801	264,327	268,852	273,378	277,904	282,430	286,956	291,482	296,007
81													
82	Amount for Deferral												
83	Distribution impact to operating income (L45 + L50 + L78)	75,109	102,507	129,062	155,578	182,055	208,493	234,892	261,253	287,574	313,856	340,100	366,304
84	Transmission impact to operating income (L46 + L51 + L79)	20,051	27,404	35,565	48,258	69,110	89,758	108,603	125,086	141,545	157,981	174,394	190,784
85	General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	237,672	256,934	269,924	288,071	296,700	305,292	313,848	322,368	330,851	339,298	347,710	388,887
86	Total	332,832	386,844	434,551	491,908	547,864	603,543	657,343	708,706	759,970	811,136	862,203	945,975
87	Distribution Cumulative amount for deferral	75,109	177,841	307,662	464,699	649,074	860,915	1,100,346	1,367,495	1,662,488	1,985,454	2,336,522	2,715,821
88	Transmission Cumulative amount for deferral	20,051	47,515	83,283	131,934	201,690	292,451	402,539	529,714	674,061	835,661	1,014,594	1,210,940
89	General Plant Cumulative amount for deferral	237,672	495,319	767,443	1,059,308	1,361,498	1,674,067	1,997,041	2,330,446	2,674,310	3,028,657	3,393,517	3,801,717
90													
91	Balance for return												
92	Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	37,555	126,588	243,131	386,910	558,047	756,668	982,900	1,236,868	1,518,701	1,828,526	2,166,472	2,532,669
93	Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	10,026	33,813	65,500	107,805	167,136	247,572	348,238	467,171	603,288	756,670	927,397	1,115,548
94	General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	118,836	366,852	632,481	915,272	1,213,148	1,521,421	1,840,117	2,169,262	2,508,884	2,859,008	3,219,662	3,607,274
95													

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE I
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

Calculation of South Carolina Retail Costs												
Line	2019 Jan	2019 Feb	2019 Mar	2019 Apr	2019 May	2019 Jun	2019 Jul	2019 Aug	2019 Sep	2019 Oct	2019 Nov	2019 Dec
96 <u>Return on Deferred Balance</u>												
97 After Tax Long-term debt [4]	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%
99 Distribution Debt return on rate base (L92 x L97 / 12)	51	172	331	527	759	1,030	1,338	1,683	2,067	2,489	2,949	3,447
100 Transmission Debt return on rate base (L93 x L97 / 12)	14	46	89	147	227	337	474	636	821	1,030	1,262	1,518
101 General Plant Debt return on rate base (L94 x L97 / 12)	162	499	861	1,246	1,651	2,071	2,504	2,952	3,415	3,891	4,382	4,909
102 Distribution Equity return on rate base (L92 x L97 / 12)	174	587	1,128	1,794	2,588	3,509	4,558	5,736	7,043	8,480	10,047	11,745
103 Transmission Equity return on rate base (L93 x L97 / 12)	46	157	304	500	775	1,148	1,615	2,167	2,798	3,509	4,301	5,173
104 General Plant Equity return on rate base (L94 x L97 / 12)	551	1,701	2,933	4,245	5,626	7,056	8,534	10,060	11,635	13,259	14,931	16,729
105 Total	998	3,163	5,645	8,458	11,627	15,150	19,023	23,234	27,778	32,657	37,872	43,522
106												
107 <u>Total Deferred balance</u>												
108 Distribution deferral (L83 + L99 + L102)	75,334	103,266	130,520	157,899	185,402	213,032	240,788	268,672	296,684	324,825	353,095	381,496
109 Transmission deferral (L84 + L100 + L103)	20,111	27,606	35,958	48,905	70,112	91,243	110,692	127,888	145,164	162,520	179,957	197,475
110 General Plant deferral (L85 + L101 + L104)	238,385	259,135	273,717	293,562	303,977	314,418	324,886	335,380	345,901	356,448	367,023	410,525
111 Total Sum (L108:L110)	333,830	390,007	440,196	500,365	559,491	618,693	676,366	731,940	787,748	843,793	900,075	989,497
112												
113 <u>Annual Amortization</u>												
114 Distribution amortization amount (L108/2)												
115 Transmission amortization amount (L109/2)												
116 General Plant amortization amount (L110/2)												
117 Total Annual amortization amount (L111/2)												

- [1] Based on lag time assumptions noted on Page 6
- distribution plant, January based on 2018 capital spend. February - December based on monthly amount from Page 6 [A]
- transmission plant, January - June based on 2018 capital spend. July - December based on monthly amount from Page 6 [B]
- communication plant, January - March based on 2018 capital spend. April - December based on monthly amount from Page 6 [C]
- Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed in service in December.
- [2] Per accounting.
- [3] From Smith Exhibit 3 Page 6.
- [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

<u>Calculation of South Carolina Retail Costs</u>		2020	2020	2020	2020	2020	
Line		<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Total</u>
No.	Description						
1	<u>Plant-in-Service: [1]</u>						
2	Distribution to Plant in Service						
3	Transmission to Plant in Service						
4	Advanced DMS Plant in Service						
5	Communications Plant in Service						
6	Enterprise Applications Plant in Service						
7	Cumulative Distribution investment (L2)	32,781,330	32,781,330	32,781,330	32,781,330	32,781,330	
8	Cumulative Transmission investment (L3)	19,018,777	19,018,777	19,018,777	19,018,777	19,018,777	
9	Cumulative Advanced DMS investment (L4)	3,518,060	3,518,060	3,518,060	3,518,060	3,518,060	
10	Cumulative Communication investment (L5)	8,195,203	8,195,203	8,195,203	8,195,203	8,195,203	
11	Cumulative Enterprise Application investment (L6)	4,690,135	4,690,135	4,690,135	4,690,135	4,690,135	
12							
13	<u>Accumulated depreciation & amortization:</u>						
14	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	
15	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	
16	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
17	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
18	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	
19	Distribution depreciation expense (L7 * L14)	58,733	58,733	58,733	58,733	58,733	
20	Transmission depreciation expense (L8 * L15)	32,173	32,173	32,173	32,173	32,173	
21	Advanced DMS depreciation expense (L9 * L16)	29,317	29,317	29,317	29,317	29,317	
22	Communication depreciation expense (L10 * L17)	68,293	68,293	68,293	68,293	68,293	
23	Enterprise Application depreciation expense (L11 * L18)	78,169	78,169	78,169	78,169	78,169	
24	Distribution accumulated depreciation	(383,133)	(441,866)	(500,599)	(559,332)	(618,066)	
25	Transmission accumulated depreciation	(190,576)	(222,749)	(254,923)	(287,096)	(319,269)	
26	Advanced DMS accumulated depreciation	(29,317)	(58,634)	(87,952)	(117,269)	(146,586)	
27	Communication accumulated depreciation	(507,240)	(575,533)	(643,827)	(712,120)	(780,413)	
28	Enterprise Application accumulated depreciation	(78,169)	(156,338)	(234,507)	(312,676)	(390,845)	
29							
30	<u>Net electric plant</u>						
31	Distribution (L7 + L24)	32,398,197	32,339,464	32,280,730	32,221,997	32,163,264	
32	Transmission (L8 + L25)	18,828,202	18,796,028	18,763,855	18,731,681	18,699,508	
33	Advanced DMS (L9 + L26)	3,488,743	3,459,426	3,430,109	3,400,792	3,371,475	
34	Communication (L10 + L27)	7,687,963	7,619,670	7,551,376	7,483,083	7,414,790	
35	Enterprise Application (L11 + L28)	4,611,966	4,533,797	4,455,628	4,377,459	4,299,290	
36	Average rate base - Distribution	32,427,564	32,368,830	32,310,097	32,251,364	32,192,631	
37	Average rate base - Transmission	18,844,288	18,812,115	18,779,941	18,747,768	18,715,595	
38	Average rate base - Advanced DMS	3,503,402	3,474,085	3,444,767	3,415,450	3,386,133	
39	Average rate base - Communication	7,722,110	7,653,816	7,585,523	7,517,230	7,448,936	
40	Average rate base - Enterprise Application	4,651,051	4,572,882	4,494,713	4,416,544	4,338,375	

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

<u>Calculation of South Carolina Retail Costs</u>						
Line	2020 <u>Jan</u>	2020 <u>Feb</u>	2020 <u>Mar</u>	2020 <u>Apr</u>	2020 <u>May</u>	<u>Total</u>
41						
42 <u>Return on rate base:</u>						
43 Long-term debt [4]	2.176%	2.176%	2.176%	2.176%	2.176%	
44 Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	
45 Distribution Debt return on rate base (L36 x L43 / 12)	58,805	58,698	58,592	58,485	58,379	648,756
46 Transmission Debt return on rate base (L37 x L43 / 12)	34,173	34,114	34,056	33,998	33,939	356,340
47 Advance DMS Debt return on rate base (L38 x L43 / 12)	6,353	6,300	6,247	6,194	6,140	34,424
48 Communication Debt return on rate base (L39 x L43 / 12)	14,003	13,880	13,756	13,632	13,508	168,365
49 Enterprise Application Debt return on rate base (L40 x L43 / 12)	8,434	8,293	8,151	8,009	7,867	45,007
50 Distribution Equity return on rate base (L36 x L44 / 12)	200,377	200,014	199,651	199,288	198,925	2,210,634
51 Transmission Equity return on rate base (L37 x L44 / 12)	116,443	116,244	116,045	115,846	115,648	1,214,227
52 Advance DMS Equity return on rate base (L38 x L44 / 12)	21,648	21,467	21,286	21,105	20,924	117,299
53 Communication Equity return on rate base (L39 x L44 / 12)	47,717	47,295	46,873	46,451	46,029	573,702
54 Enterprise Application Equity return on rate base (L40 x L44 / 12)	28,740	28,257	27,774	27,291	26,808	153,360
55						
56 <u>Other operation and maintenance expense: [3]</u>						
57 Distribution O&M						764,206
58 Transmission O&M						210,074
59 <u>General Plant O&M</u>						2,786,879
60 Total O&M	-	-	-	-	-	3,761,160
61						
62 <u>Depreciation and amortization:</u>						
63 Distribution depreciation expense (L19)	58,733	58,733	58,733	58,733	58,733	618,066
64 Transmission depreciation expense (L20)	32,173	32,173	32,173	32,173	32,173	319,269
65 <u>General plant depreciation expense (sum (L21:23))</u>	175,779	175,779	175,779	175,779	175,779	1,317,844
66 Total Depreciation	266,686	266,686	266,686	266,686	266,686	2,255,179
67						
68 <u>General taxes:</u>						
69 Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	
70 Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	
71						
72 Distribution property tax expense	28,254	28,254	28,254	28,254	28,254	141,270
73 Transmission property tax expense	8,940	8,940	8,940	8,940	8,940	44,699
74 General Plant property tax expense	7,710	7,710	7,710	7,710	7,710	38,552
75 Impact to general taxes (Sum (L72:L74))	44,904	44,904	44,904	44,904	44,904	224,521
76						
77 <u>Total impact to operating income:</u>						
78 Distribution (L57 + L63 + L72)	86,987	86,987	86,987	86,987	86,987	1,523,542
79 Transmission (L58 + L64 + L73)	41,113	41,113	41,113	41,113	41,113	574,043
80 General Plant (L59 + L65 + L74)	183,490	183,490	183,490	183,490	183,490	4,143,275
81						
82 <u>Amount for Deferral</u>						
83 Distribution impact to operating income (L45 + L50 + L78)	346,169	345,699	345,230	344,760	344,291	4,382,932
84 Transmission impact to operating income (L46 + L51 + L79)	191,729	191,471	191,214	190,957	190,700	2,144,610
85 General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	310,385	308,980	307,575	306,171	304,766	5,235,432
86 Total	848,283	846,151	844,020	841,888	839,757	11,762,973
87 Distribution Cumulative amount for deferral	3,077,182	3,440,302	3,805,131	4,171,681	4,539,962	
88 Transmission Cumulative amount for deferral	1,409,360	1,608,711	1,809,001	2,010,236	2,212,421	
89 General Plant Cumulative amount for deferral	4,133,741	4,466,586	4,800,028	5,134,069	5,468,712	
90						
91 <u>Balance for return</u>						
92 Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	2,904,098	3,267,452	3,632,516	3,999,301	4,367,816	
93 Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	1,313,496	1,512,975	1,713,394	1,914,757	2,117,071	
94 General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	3,978,548	4,312,096	4,646,240	4,980,983	5,316,330	
95						

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1
For the period January 1, 2019 through December 31, 2019

Smith Exhibit 3
Calculation of SC Retail Costs
Page 3

Calculation of South Carolina Retail Costs						
Line	2020 Jan	2020 Feb	2020 Mar	2020 Apr	2020 May	Total
96 <u>Return on Deferred Balance</u>						
97 After Tax Long-term debt [4]	1.633%	1.633%	1.633%	1.633%	1.633%	
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	
99 Distribution Debt return on rate base (L92 x L97 / 12)	3,952	4,447	4,944	5,443	5,944	41,572
100 Transmission Debt return on rate base (L93 x L97 / 12)	1,788	2,059	2,332	2,606	2,881	18,267
101 General Plant Debt return on rate base (L94 x L97 / 12)	5,415	5,869	6,323	6,779	7,235	60,164
102 Distribution Equity return on rate base (L92 x L97 / 12)	13,468	15,153	16,846	18,547	20,256	141,658
103 Transmission Equity return on rate base (L93 x L97 / 12)	6,091	7,016	7,946	8,880	9,818	62,244
104 General Plant Equity return on rate base (L94 x L97 / 12)	18,451	19,997	21,547	23,099	24,654	205,007
105 Total	49,164	54,541	59,938	65,354	70,789	528,912
106						
107 <u>Total Deferred balance</u>						
108 Distribution deferral (L83 + L99 + L102)	363,589	365,299	367,019	368,750	370,491	4,566,162
109 Transmission deferral (L84 + L100 + L103)	199,608	200,547	201,492	202,443	203,399	2,225,120
110 General Plant deferral (L85 + L101 + L104)	334,251	334,846	335,446	336,049	336,655	5,500,602
111 Total Sum (L108:L110)	897,447	900,692	903,957	907,242	910,546	12,291,885
112						
113 <u>Annual Amortization</u>						
114 Distribution amortization amount (L108/2)						2,283,081
115 Transmission amortization amount (L109/2)						1,112,560
116 General Plant amortization amount (L110/2)						2,750,301
117 Total Annual amortization amount (L111/2)						6,145,942

- [1] Based on lag time assumptions noted on Page 6
- distribution plant, January based on 2018 capital spend. February - December based on 2018 capital spend.
 - transmission plant, January - June based on 2018 capital spend. July - December based on 2018 capital spend.
 - communication plant, January - March based on 2018 capital spend. April - December based on 2018 capital spend.
 - Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed in the appropriate column.
- [2] Per accounting.
- [3] From Smith Exhibit 3 Page 6.
- [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC
 DOCKET 2018-319-E
 SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
 REVENUE REQUIREMENT
 For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
 Page 4

Line No.	Description	Total SC Retail	Depreciation Rate	Depreciation
1	<u>Impact to Rate Base Line Items</u>			
2	<u>Additions to gross electric plant:</u>			
3	Distribution [1]	\$ 55,153,399	2.15%	\$ 1,185,798
4	Transmission [1]	26,146,987	2.03%	530,784
5	General - Communication & Advanced DMS [1]	14,523,350	10.00%	1,452,335
6	General - Enterprise Applications [1]	6,185,611	20.00%	1,237,122
7	Impact to electric plant in service (Sum L3 through L6)	<u>\$ 102,009,348</u>		<u>\$ 4,406,039</u>
8				
9	<u>Accumulated depreciation & amortization:</u>			
10	Distribution accumulated depreciation (-L3)	\$ (1,185,798)		
11	Transmission accumulated depreciation (-L4)	(530,784)		
12	General Plant accumulated depreciation (-Sum L5 through L6)	<u>(2,689,457)</u>		
13	Impact to accumulated depreciation (Sum L10 through L12)	<u>\$ (4,406,039)</u>		
14				
15	<u>Net electric plant:</u>			
16	Distribution (L3 + L10)	\$ 53,967,601		
17	Transmission (L4 + L11)	25,616,203		
18	General Plant (L5 + L6 + L12)	<u>18,019,505</u>		
19	Impact to net plant (Sum L16 through L18)	<u>\$ 97,603,308</u>		
20				
21	Cost of Capital [2]	9.63%		
22				
23	<u>Rate Base Revenue Requirement</u>			
24	Distribution (L16 * L21)	\$ 5,199,150		
25	Transmission (L17 * L21)	2,467,823		
26	General Plant (L18 * L21)	<u>1,735,969</u>		
27	Impact to net plant (Sum L24 through L26)	<u>\$ 9,402,942</u>		
28				
29	<u>Impact to Income Statement Line Items</u>			
30	<u>Depreciation and amortization:</u>			
31	Distribution depreciation expense (L3)	\$ 1,185,798		
32	Transmission depreciation expense (L4)	530,784		
33	General Plant depreciation expense (Sum L5 through L6)	<u>2,689,457</u>		
34	Impact to deprec. and amortization (Sum L31 through L33)	<u>\$ 4,406,039</u>		
35				
36	<u>Removal of expired amortization of 2018 deferral:</u>			
37	Distribution depreciation expense	\$ (1,581,483)		
38	Transmission depreciation expense	\$ (403,172)		
39	General Plant depreciation expense	<u>\$ (1,371,814)</u>		
40	Impact to deprec. and amortization (Sum L37 through L39)	<u>\$ (3,356,469)</u>		

DUKE ENERGY CAROLINAS, LLC

DOCKET 2018-319-E

SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2

REVENUE REQUIREMENT

For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3

Page 4 Cont.

Line No.	Description	Total SC Retail	Depreciation Rate	Depreciation
41				
42	<u>Amortization of 2019 deferral:</u>			
43	Distribution depreciation expense			
44	Transmission depreciation expense			
45	General Plant depreciation expense			
46	Impact to deprec. and amortization (Sum L43 through L45)	\$ -		
47				
48	<u>Amortization of 2020 deferral:</u>			
49	Distribution depreciation expense [3]	\$ 3,771,077		
50	Transmission depreciation expense [3]	1,570,854		
51	General Plant depreciation expense [3]	3,495,382		
52	Impact to deprec. and amortization (Sum L49 through L51)	\$ 8,837,313		
53				
54	<u>General taxes:</u>			
55	Property tax rate - South Carolina	1.0343%		
56	Property tax rate - Combined North Carolina and South Carolina	0.5641%		
57				
58	Distribution property tax expense (L3 * L55)	\$ 570,436		
59	Transmission property tax expense (L4 * L56)	147,484		
60	General Plant property tax expense (Sum(L5 through L6) * L56)	116,811		
61	Impact to general taxes (Sum L58 through L60)	\$ 834,731		
62				
63	<u>Income Taxes</u>	24.95%		
64	Distribution (L31 + L37 + L43 + L49 + L58) * -L63	\$ (984,484)		
65	Transmission (L32 + L38 + L44 + L50 + L59) * -L63	(460,565)		
66	General Plant (L33 + L39 + L45 + L51 + L60) * -L63	(1,229,994)		
67	Total income taxes (Sum L64 through L66)	\$ (2,675,043)		
68				
69	<u>Total Income statement impact</u>			
70	Distribution (L32 + L38 + L43 + L49 + L58 + L64)	\$ 2,961,343		
71	Transmission (L33 + L39 + L44 + L50 + L59 + L65)	1,385,385		
72	General Plant (L34 + L40 + L45 + L51 + L60 + L66)	3,699,842		
73	Total income statement impact (Sum L70 through L72)	\$ 8,046,571		
74				
75	<u>Income Statement Requirement</u>	74.72% [4]		
76	Distribution (L70 / L75)	\$ 3,963,386		
77	Transmission (L71 / L75)	1,854,164		
78	General Plant (L72 / L75)	4,951,773		
79	Total income statement Requirement (Sum L76 through L78)	\$ 10,769,323		
80				
81	<u>Total Revenue Requirement for Plant additions and Deferral</u>			
82	Distribution (L25 + L76)	\$ 9,162,535		
83	Transmission (L26 + L77)	4,321,987		
84	General Plant (L27 + L78)	6,687,743		
85	Total Revenue Requirement (Sum L82 through L84)	\$ 20,172,265		

[1] Smith Exhibit 3 page 5, lines 7-11 May, 2021.

[2] Smith Exhibit 3 page 7, line 5.

[3] Smith Exhibit 3 page 5, lines 114-116

[4] Smith Exhibit 3 page 7, line 24.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Calculation of South Carolina Retail Costs		2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020
Line		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
No.	Description												
1	<u>Plant-in-Service: [1]</u>												
2	Distribution to Plant in Service	2,720,219	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653
3	Transmission to Plant in Service	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	2,642,468	2,642,468	2,642,468	2,642,468	2,642,468	2,642,468
4	Advanced DMS Plant in Service				-	-	-	-	-	-	-	-	4,178,403
5	Communications Plant in Service	543,101	543,101	543,101	968,405	968,405	968,405	968,405	968,405	968,405	968,405	968,405	968,405
6	Enterprise Applications Plant in Service	-	-	-	-	-	-	-	-	-	-	-	6,185,611
7	Cumulative Distribution investment (L2)	2,720,219	7,486,871	12,253,524	17,020,177	21,786,830	26,553,483	31,320,135	36,086,788	40,853,441	45,620,094	50,386,746	55,153,399
8	Cumulative Transmission investment (L3)	1,715,363	3,430,726	5,146,089	6,861,452	8,576,815	10,292,179	12,934,647	15,577,115	18,219,583	20,862,051	23,504,519	26,146,987
9	Cumulative Advanced DMS investment (L4)				-	-	-	-	-	-	-	-	4,178,403
10	Cumulative Communication investment (L5)	543,101	1,086,202	1,629,302	2,597,707	3,566,112	4,534,517	5,502,922	6,471,327	7,439,732	8,408,137	9,376,542	10,344,947
11	Cumulative Enterprise Application investment (L6)	-	-	-	-	-	-	-	-	-	-	-	6,185,611
12													
13	<u>Accumulated depreciation & amortization:</u>												
14	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%
15	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
16	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
17	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
18	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
19	Distribution depreciation expense (L7 * L14)	-	4,874	13,414	21,954	30,494	39,035	47,575	56,115	64,656	73,196	81,736	90,276
20	Transmission depreciation expense (L8 * L15)	-	2,902	5,804	8,705	11,607	14,509	17,411	21,881	26,351	30,821	35,292	39,762
21	Advanced DMS depreciation expense (L9 * L16)	-	-	-	-	-	-	-	-	-	-	-	-
22	Communication depreciation expense (L10 * L17)	-	4,526	9,052	13,578	21,648	29,718	37,788	45,858	53,928	61,998	70,068	78,138
23	Enterprise Application depreciation expense (L11 * L18)	-	-	-	-	-	-	-	-	-	-	-	-
24	Distribution accumulated depreciation	-	(4,874)	(18,288)	(40,242)	(70,736)	(109,771)	(157,346)	(213,461)	(278,117)	(351,313)	(433,049)	(523,325)
25	Transmission accumulated depreciation	-	(2,902)	(8,705)	(17,411)	(29,018)	(43,527)	(60,938)	(82,819)	(109,171)	(139,992)	(175,284)	(215,046)
26	Advanced DMS accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
27	Communication accumulated depreciation	-	(4,526)	(13,578)	(27,155)	(48,803)	(78,520)	(116,308)	(162,166)	(216,093)	(278,091)	(348,159)	(426,297)
28	Enterprise Application accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
29													
30	<u>Net electric plant</u>												
31	Distribution (L7 + L24)	2,720,219	7,481,998	12,235,237	16,979,935	21,716,093	26,443,711	31,162,789	35,873,327	40,575,324	45,268,781	49,953,698	54,630,074
32	Transmission (L8 + L25)	1,715,363	3,427,824	5,137,384	6,844,041	8,547,797	10,248,651	12,873,708	15,494,295	18,110,412	20,722,058	23,329,235	25,931,941
33	Advanced DMS (L9 + L26)												4,178,403
34	Communication (L10 + L27)	543,101	1,081,676	1,615,725	2,570,552	3,517,310	4,455,997	5,386,614	6,309,162	7,223,639	8,130,046	9,028,383	9,918,650
35	Enterprise Application (L11 + L28)												6,185,611
36	Average rate base - Distribution	1,360,109	5,101,108	9,858,617	14,607,586	19,348,014	24,079,902	28,803,250	33,518,058	38,224,325	42,922,053	47,611,239	52,291,886
37	Average rate base - Transmission	857,682	2,571,594	4,282,604	5,990,713	7,695,919	9,398,224	11,561,180	14,184,002	16,802,354	19,416,235	22,025,647	24,630,588
38	Average rate base - Advanced DMS		-	-	-	-	-	-	-	-	-	-	2,089,202
39	Average rate base - Communication	271,550	812,388	1,348,700	2,093,139	3,043,931	3,986,653	4,921,306	5,847,888	6,766,400	7,676,842	8,579,215	9,473,517
40	Average rate base - Enterprise Application	-	-	-	-	-	-	-	-	-	-	-	3,092,806
41													
42	<u>Return on rate base:</u>												
43	Long-term debt [4]	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%	2.176%
44	Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%
45	Distribution Debt return on rate base (L36 x L43 / 12)	2,466	9,250	17,878	26,490	35,086	43,667	52,232	60,782	69,317	77,836	86,339	94,827
46	Transmission Debt return on rate base (L37 x L43 / 12)	1,555	4,663	7,766	10,864	13,956	17,043	20,965	25,722	30,470	35,210	39,942	44,666
47	Advance DMS Debt return on rate base (L38 x L43 / 12)												3,789
48	Communication Debt return on rate base (L39 x L43 / 12)	492	1,473	2,446	3,796	5,520	7,229	8,924	10,605	12,270	13,921	15,558	17,179
49	Enterprise Application Debt return on rate base (L40 x L43 / 12)	-	-	-	-	-	-	-	-	-	-	-	5,609
50	Distribution Equity return on rate base (L36 x L44 / 12)	8,404	31,521	60,919	90,263	119,556	148,795	177,981	207,115	236,196	265,225	294,200	323,123
51	Transmission Equity return on rate base (L37 x L44 / 12)	5,300	15,890	26,463	37,018	47,555	58,074	71,439	87,646	103,825	119,977	136,101	152,198
52	Advance DMS Equity return on rate base (L38 x L44 / 12)	-	-	-	-	-	-	-	-	-	-	-	12,910
53	Communication Equity return on rate base (L39 x L44 / 12)	1,678	5,020	8,334	12,934	18,809	24,634	30,410	36,135	41,811	47,437	53,013	58,539
54	Enterprise Application Equity return on rate base (L40 x L44 / 12)	-	-	-	-	-	-	-	-	-	-	-	19,111

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Line	2020 <u>Jan</u>	2020 <u>Feb</u>	2020 <u>Mar</u>	2020 <u>Apr</u>	2020 <u>May</u>	2020 <u>Jun</u>	2020 <u>Jul</u>	2020 <u>Aug</u>	2020 <u>Sep</u>	2020 <u>Oct</u>	2020 <u>Nov</u>	2020 <u>Dec</u>
55												
56	Other operation and maintenance expense: [3]											
57	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347
58	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696
59	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977
60	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020
61												
62	Depreciation and amortization:											
63	-	4,874	13,414	21,954	30,494	39,035	47,575	56,115	64,656	73,196	81,736	90,276
64	-	2,902	5,804	8,705	11,607	14,509	17,411	21,881	26,351	30,821	35,292	39,762
65	-	4,526	9,052	13,578	21,648	29,718	37,788	45,858	53,928	61,998	70,068	78,138
66	-	12,301	28,269	44,237	63,749	83,261	102,774	123,854	144,935	166,015	187,095	208,176
67												
68	General taxes:											
69	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
70	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%
71												
72	Distribution property tax expense											
73	Transmission property tax expense											
74	General Plant property tax expense											
75	Impact to general taxes (Sum (L72:L74))											
76	-	-	-	-	-	-	-	-	-	-	-	-
77	Total impact to operating income:											
78	106,347	111,221	119,761	128,302	136,842	145,382	153,922	162,463	171,003	179,543	188,083	196,624
79	31,696	34,598	37,500	40,401	43,303	46,205	49,107	53,577	58,047	62,517	66,988	71,458
80	315,977	320,503	325,029	329,554	337,624	345,694	353,764	361,835	369,905	377,975	386,045	394,115
81												
82	Total impact to operating income:											
83	117,218	151,992	198,558	245,055	291,483	337,844	384,136	430,360	476,516	522,603	568,623	614,573
84	38,551	55,152	71,729	88,283	104,814	121,322	141,511	166,945	192,342	217,704	243,030	268,321
85	318,147	326,996	335,808	346,284	361,953	377,558	393,099	408,575	423,986	439,333	454,615	511,251
86	473,917	534,140	606,095	679,622	758,251	836,724	918,746	1,005,879	1,092,844	1,179,640	1,266,268	1,394,145
87	117,218	269,562	469,281	716,555	1,011,602	1,354,640	1,745,889	2,185,569	2,673,905	3,211,118	3,797,435	4,433,082
88	38,551	93,818	165,945	255,008	361,087	484,260	628,312	798,601	995,233	1,218,330	1,468,016	1,744,414
89	318,147	646,097	984,800	1,335,984	1,704,913	2,091,613	2,496,125	2,918,494	3,358,761	3,816,969	4,293,163	4,828,803
90												
91	Balance for return											
92	58,609	193,566	370,002	594,028	865,860	1,185,718	1,553,821	1,970,389	2,435,647	2,949,816	3,513,124	4,125,795
93	19,276	66,243	130,080	210,866	308,680	423,599	557,556	715,129	899,062	1,109,478	1,346,501	1,610,253
94	159,074	482,599	816,896	1,162,842	1,523,936	1,902,834	2,299,576	2,714,207	3,146,768	3,597,303	4,065,855	4,573,177
95												
96	Return on Deferred Balance											
97	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%	1.633%
98	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%
99	80	263	504	808	1,178	1,614	2,115	2,682	3,315	4,015	4,781	5,615
100	26	90	177	287	420	577	759	973	1,224	1,510	1,833	2,192
101	216	657	1,112	1,583	2,074	2,590	3,130	3,694	4,283	4,896	5,534	6,224
102	272	898	1,716	2,755	4,015	5,499	7,206	9,138	11,295	13,680	16,292	19,133
103	89	307	603	978	1,432	1,964	2,586	3,316	4,169	5,145	6,244	7,468
104	738	2,238	3,788	5,393	7,067	8,824	10,664	12,587	14,593	16,682	18,855	21,208
105	1,421	4,453	7,900	11,803	16,187	21,068	26,459	32,390	38,879	45,928	53,539	61,840
106												

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Calculation of South Carolina Retail Costs		2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	
Line		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
107	<u>Total</u>												
108	Distribution deferral (L83 + L99 + L102)	117,570	153,154	200,777	248,618	296,677	344,956	393,457	442,179	491,126	540,298	589,696	639,322
109	Transmission deferral (L84 + L100 + L103)	38,667	55,549	72,509	89,548	106,666	123,863	144,856	171,234	197,735	224,359	251,107	277,980
110	General Plant deferral (L85 + L101 + L104)	319,101	329,891	340,708	353,259	371,095	388,972	406,893	424,856	442,862	460,911	479,004	538,683
111	Total Sum (L108:L110)	475,338	538,593	613,995	691,425	774,438	857,791	945,205	1,038,269	1,131,723	1,225,568	1,319,807	1,455,985
112													
113	<u>Annual Amortization</u>												
114	Distribution amortization amount (L108/2)												
115	Transmission amortization amount (L109/2)												
116	General Plant amortization amount (L110/2)												
117	Total Annual amortization amount (L111/2)												

- [1] Based on lag time assumptions noted on Page 6
- distribution plant, January based on 2018 capital spend. February - December based on monthly amount from Page 6 [A]
 - transmission plant, January - June based on 2018 capital spend. July - December based on monthly amount from Page 6 [B]
 - communication plant, January - March based on 2018 capital spend. April - December based on monthly amount from Page 6 [C]
 - Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed in service in December.
- [2] Per accounting.
- [3] From Smith Exhibit 3 Page 6.
- [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Calculation of South Carolina Retail Costs		2021	2021	2021	2021	2021	Total
Line No.	Description	Jan	Feb	Mar	Apr	May	
1	Plant-in-Service: [1]						
2	Distribution to Plant in Service						
3	Transmission to Plant in Service						
4	Advanced DMS Plant in Service						
5	Communications Plant in Service						
6	Enterprise Applications Plant in Service						
7	Cumulative Distribution investment (L2)	55,153,399	55,153,399	55,153,399	55,153,399	55,153,399	
8	Cumulative Transmission investment (L3)	26,146,987	26,146,987	26,146,987	26,146,987	26,146,987	
9	Cumulative Advanced DMS investment (L4)	4,178,403	4,178,403	4,178,403	4,178,403	4,178,403	
10	Cumulative Communication investment (L5)	10,344,947	10,344,947	10,344,947	10,344,947	10,344,947	
11	Cumulative Enterprise Application investment (L6)	6,185,611	6,185,611	6,185,611	6,185,611	6,185,611	
12							
13	Accumulated depreciation & amortization:						
14	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	
15	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	
16	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
17	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
18	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	
19	Distribution depreciation expense (L7 * L14)	98,817	98,817	98,817	98,817	98,817	
20	Transmission depreciation expense (L8 * L15)	44,232	44,232	44,232	44,232	44,232	
21	Advanced DMS depreciation expense (L9 * L16)	34,820	34,820	34,820	34,820	34,820	
22	Communication depreciation expense (L10 * L17)	86,208	86,208	86,208	86,208	86,208	
23	Enterprise Application depreciation expense (L11 * L18)	103,094	103,094	103,094	103,094	103,094	
24	Distribution accumulated depreciation	(622,141)	(720,958)	(819,774)	(918,591)	(1,017,407)	
25	Transmission accumulated depreciation	(259,278)	(303,510)	(347,742)	(391,974)	(436,206)	
26	Advanced DMS accumulated depreciation	(34,820)	(69,640)	(104,460)	(139,280)	(174,100)	
27	Communication accumulated depreciation	(512,505)	(598,712)	(684,920)	(771,128)	(857,336)	
28	Enterprise Application accumulated depreciation	(103,094)	(206,187)	(309,281)	(412,374)	(515,468)	
29							
30	Net electric plant						
31	Distribution (L7 + L24)	54,531,258	54,432,441	54,333,625	54,234,808	54,135,992	
32	Transmission (L8 + L25)	25,887,709	25,843,477	25,799,245	25,755,013	25,710,781	
33	Advanced DMS (L9 + L26)	4,143,583	4,108,763	4,073,943	4,039,123	4,004,303	
34	Communication (L10 + L27)	9,832,442	9,746,234	9,660,027	9,573,819	9,487,611	
35	Enterprise Application (L11 + L28)	6,082,518	5,979,424	5,876,331	5,773,237	5,670,144	
36	Average rate base - Distribution	54,580,666	54,481,850	54,383,033	54,284,217	54,185,400	
37	Average rate base - Transmission	25,909,825	25,865,593	25,821,361	25,777,129	25,732,897	
38	Average rate base - Advanced DMS	4,160,993	4,126,173	4,091,353	4,056,533	4,021,713	
39	Average rate base - Communication	9,875,546	9,789,338	9,703,131	9,616,923	9,530,715	
40	Average rate base - Enterprise Application	6,134,065	6,030,971	5,927,878	5,824,784	5,721,691	
41							
42	Return on rate base:						
43	Long-term debt [4]	2.176%	2.176%	2.176%	2.176%	2.176%	
44	Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	
45	Distribution Debt return on rate base (L36 x L43 / 12)	98,977	98,798	98,619	98,440	98,261	1,069,265
46	Transmission Debt return on rate base (L37 x L43 / 12)	46,985	46,905	46,825	46,745	46,664	486,945
47	Advance DMS Debt return on rate base (L38 x L43 / 12)	7,546	7,482	7,419	7,356	7,293	40,885
48	Communication Debt return on rate base (L39 x L43 / 12)	17,908	17,752	17,596	17,439	17,283	187,393
49	Enterprise Application Debt return on rate base (L40 x L43 / 12)	11,124	10,937	10,750	10,563	10,376	59,357
50	Distribution Equity return on rate base (L36 x L44 / 12)	337,266	336,655	336,044	335,434	334,823	3,643,520
51	Transmission Equity return on rate base (L37 x L44 / 12)	160,102	159,829	159,556	159,282	159,009	1,659,264
52	Advance DMS Equity return on rate base (L38 x L44 / 12)	25,712	25,497	25,281	25,066	24,851	139,316
53	Communication Equity return on rate base (L39 x L44 / 12)	61,023	60,490	59,958	59,425	58,892	638,543
54	Enterprise Application Equity return on rate base (L40 x L44 / 12)	37,904	37,267	36,630	35,993	35,356	202,259

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Line	Calculation of South Carolina Retail Costs	2021 Jan	2021 Feb	2021 Mar	2021 Apr	2021 May	Total
55							
56	<u>Other operation and maintenance expense: [3]</u>						
57	Distribution O&M						1,276,170
58	Transmission O&M						380,352
59	General Plant O&M						3,791,722
60	Total O&M	-	-	-	-	-	5,448,244
61							
62	<u>Depreciation and amortization:</u>						
63	Distribution depreciation expense (L19)	98,817	98,817	98,817	98,817	98,817	1,017,407
64	Transmission depreciation expense (L20)	44,232	44,232	44,232	44,232	44,232	436,206
65	General plant depreciation expense (sum (L21:L23))	224,121	224,121	224,121	224,121	224,121	1,546,904
66	Total Depreciation	367,170	367,170	367,170	367,170	367,170	3,000,517
67							
68	<u>General taxes:</u>						
69	Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	
70	Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	
71							
72	Distribution property tax expense	47,536	47,536	47,536	47,536	47,536	237,682
73	Transmission property tax expense	12,290	12,290	12,290	12,290	12,290	61,452
74	General Plant property tax expense	9,734	9,734	9,734	9,734	9,734	48,671
75	Impact to general taxes (Sum (L72:L74))	69,561	69,561	69,561	69,561	69,561	347,805
76							
77	<u>Total impact to operating income:</u>						
78	Distribution (L57 + L63 + L72)	146,353	146,353	146,353	146,353	146,353	2,531,259
79	Transmission (L58 + L64 + L73)	56,522	56,522	56,522	56,522	56,522	878,009
80	General Plant (L59 + L65 + L74)	233,856	233,856	233,856	233,856	233,856	5,387,297
81							
82	<u>Total impact to operating income:</u>						
83	Distribution impact to operating income (L45 + L50 + L78)	582,596	581,806	581,016	580,226	579,437	7,244,044
84	Transmission impact to operating income (L46 + L51 + L79)	263,610	263,256	262,903	262,549	262,196	3,024,219
85	General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	395,072	393,281	391,489	389,698	387,907	6,655,051
86	Total	1,241,278	1,238,343	1,235,408	1,232,474	1,229,539	16,923,314
87	Distribution Cumulative impact to operating income	5,040,426	5,650,720	6,263,887	6,879,944	7,498,910	
88	Transmission Cumulative impact to operating income	2,017,683	2,292,252	2,568,115	2,845,281	3,123,757	
89	General Plant Cumulative impact to operating income	5,251,307	5,674,902	6,099,252	6,524,362	6,950,236	
90							
91	<u>Balance for return</u>						
92	Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	4,749,128	5,359,817	5,973,379	6,589,831	7,209,192	
93	Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	1,885,878	2,160,624	2,436,664	2,714,006	2,992,659	
94	General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	5,053,771	5,478,262	5,903,508	6,329,513	6,756,283	
95							
96	<u>Return on Deferred Balance</u>						
97	After Tax Long-term debt [4]	1.633%	1.633%	1.633%	1.633%	1.633%	
98	After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	
99	Distribution Debt return on rate base (L92 x L97 / 12)	6,463	7,295	8,130	8,969	9,811	67,637
100	Transmission Debt return on rate base (L93 x L97 / 12)	2,567	2,941	3,316	3,694	4,073	26,657
101	General Plant Debt return on rate base (L94 x L97 / 12)	6,878	7,456	8,034	8,614	9,195	76,169
102	Distribution Equity return on rate base (L92 x L97 / 12)	22,024	24,856	27,702	30,560	33,433	230,473
103	Transmission Equity return on rate base (L93 x L97 / 12)	8,746	10,020	11,300	12,586	13,878	90,833
104	General Plant Equity return on rate base (L94 x L97 / 12)	23,437	25,405	27,378	29,353	31,332	259,544
105	Total	70,115	77,972	85,859	93,776	101,723	751,312
106							

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Smith Exhibit 3
Calculation of SC Retail Costs
Page 5

Calculation of South Carolina Retail Costs		2021	2021	2021	2021	2021	
Line		Jan	Feb	Mar	Apr	May	Total
107	<u>Total</u>						
108	Distribution deferral (L83 + L99 + L102)	611,083	613,957	616,847	619,755	622,681	7,542,154
109	Transmission deferral (L84 + L100 + L103)	274,922	276,217	277,519	278,829	280,147	3,141,708
110	General Plant deferral (L85 + L101 + L104)	425,387	426,142	426,901	427,665	428,434	6,990,764
111	Total Sum (L108:L110)	1,311,393	1,316,315	1,321,268	1,326,250	1,331,262	17,674,626
112							
113	<u>Annual Amortization</u>						
114	Distribution amortization amount (L108/2)						3,771,077
115	Transmission amortization amount (L109/2)						1,570,854
116	General Plant amortization amount (L110/2)						3,495,382
117	Total Annual amortization amount (L111/2)						8,837,313

- [1] Based on lag time assumptions noted on Page 6
- distribution plant, January based on 2018 capital spend. February - December based or
 - transmission plant, January - June based on 2018 capital spend. July - December based
 - communication plant, January - March based on 2018 capital spend. April - December
 - Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed
- [2] Per accounting.
- [3] From Smith Exhibit 3 Page 6.
- [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT
Capital Spend and Installation O&M Estimates
Dollars in Millions

Smith Exhibit 3
Calculation of SC Retail Costs
Page 6

1	DEC Total Capital Spend			SC Retail	DEC Total Capital Spend			
2	SYSTEM [1]	2019	2020		SC Retail	2019 Monthly	2020 Monthly	
3								
4	Energy Storage (NC Dist)	0.628	10.100	Direct Direct	Energy Storage (NC Dist)			
5	Distribution NC	133.896	209.187		Distribution NC			
6	Energy Storage (SC Dist)	0.140	0.022		Energy Storage (SC Dist)	0.140	0.012	0.022
7	Distribution SC	32.502	57.178		Distribution SC	32.502	2.709	57.178
8	Total Distribution	167.166	276.486		Total Distribution [A]	32.643	2.720	57.200
9								4.767
10	Energy Storage (Trans)	0.768	10.122	18.75%	Energy Storage (Trans)	0.144	0.012	1.898
11	Transmission	109.034	159.025	18.75%	Transmission	20.440	1.703	29.812
12	Total Transmission	109.802	169.147		Total Transmission [B]	20.584	1.715	31.710
13								2.642
14	Advanced DMS	14.096	16.742	24.96%	Advanced DMS [D]	3.518	0.293	4.178
15	Communication	26.112	46.561	24.96%	Communication [C]	6.517	0.543	11.621
16	Enterprise Application	18.792	24.784	24.96%	Enterprise Application [D]	4.690	0.391	6.186
17								0.515
18	TOTAL	335.968	533.720		TOTAL	67.952	5.663	110.894
19								9.241
20	Plant In Service Assumptions	Lag between Capital Spend and asset in service						
21	Distribution	1 month						
22	Transmission	6 months						
23	Communication	3 months						
24	Advanced DMS & Enterprise Application	Annually in December						
25								
26	DEC Total O&M			SC Retail	DEC Total O&M Spend			
27	SYSTEM [1]	2019	2020		SC Retail	2019 Monthly	2020 Monthly	
28								
29	Energy Storage (NC Dist)	0.035	0.561	Direct Direct	Energy Storage (NC Dist)			
30	Distribution NC	3.300	4.253		Distribution NC			
31	Energy Storage (SC Dist)	0.008	0.001		Energy Storage (SC Dist)	0.008	0.001	0.000
32	Distribution SC	0.756	1.275		Distribution SC	0.756	0.063	1.275
33	Total Distribution	4.099	6.090		Total Distribution	0.764	0.064	1.276
34								0.106
35	Energy Storage (Trans)	0.043	0.563	18.75%	Energy Storage (Trans)	0.008	0.001	0.105
36	Transmission	1.078	1.466	18.75%	Transmission	0.202	0.017	0.275
37	Total Transmission	1.121	2.029		Total Transmission	0.210	0.018	0.380
38								0.032
39	Advanced DMS	0.974	1.156	24.96%	Advanced DMS	0.243	0.020	0.289
40	Communication	1.278	2.279	24.96%	Communication	0.319	0.027	0.569
41	Enterprise Application	8.914	11.757	24.96%	Enterprise Application	2.225	0.185	2.934
42								0.245
43	TOTAL	16.386	23.311		TOTAL	3.761	0.313	5.448
								0.454

[1] System numbers and Plant in Service assumptions from Witness Oliver
[2] Allocation factors from the Cost of service study.

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT

Smith Exhibit 3
Calculation of SC Retail Costs
Page 7

Weighted Average Cost of Capital

Line No.	Description	Capital Structure	Cost/Return	Weighted Cost/Return	Income Taxes Factor	After Tax Return	Income Taxes Factor	Revenue Requirement Excluding Gross Receipt Tax and Regulatory Fee	Combined Gross Receipts Tax and Regulatory Fee Factor	Revenue Requirement Including Gross Receipt Tax and Regulatory Fee
1		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2										
3	Long-term debt	47.0000%	4.63%	2.1761%	0.7505000	1.63316%	1.00000	2.17610%	99.55699%	2.18578%
4	Members' equity	53.0000%	10.50%	5.5650%	1.0000000	5.56500%	0.75050	7.41506%	99.55699%	7.44805%
5	Total (L3 + L4)	100.0000%		7.7411%		7.1982%		9.5912%		9.6338%
6										
7	Gross revenue				1.0000000					
8	State income tax rate				0.0500000					
9	Remainder (L7 - L8)				0.9500000					
10	Federal income tax rate				0.2100000					
11	Federal income tax (L9 x L10)				0.1995000					
12	State income tax rate				0.0500000					
13	Combined income tax rate (L11 + L12)				0.2495000					
14	1 minus combined income tax rate (1 - L13)				0.7505000					
15										
16	Gross revenue				1.0000000					
17										
18	Gross receipts tax rate				0.0030000					
19	Regulatory fee rate				0.0014301					
20	Combined gross receipts tax and regulatory fee rate (L16 - L18 - L19)				0.9955699					
21	State income tax (L8 x L20)				0.0497785					
22	Balance (L20 - L21)				0.9457914					
23	Federal income tax (L10 x L22)				0.1986162					
24	Retention factor (L22 - L23)				0.7471752					